U.S. Fish & Wildlife Service

Strategic Plan for the U.S. Fish & Wildlife Service

Coastal Program
Pacific Southwest Region

FY 2017-2021

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Executive Summary

The Coastal Program Strategic Work Plan (Plan) for the Pacific Southwest Region (Region 8) describes the U.S. Fish and Wildlife Service's (Service) approach for conserving and restoring high priority coastal ecosystems and habitats in California. The National Strategic Goals of the Coastal Program are: (1) Conserve habitat, (2) Broaden and strengthen partnerships, (3) Improve information sharing and communication, (4) Enhance our workforce, and (5) Increase accountability. This Plan is based upon a Strategic Habitat Conservation (SHC) approach that will assist the Coastal Program in achieving the conservation, transparency, and accountability objectives under the National program goals. Coastal Program projects will be evaluated on an Ecoregion or watershed scale, and prioritized within geographic Focus Areas. This Plan will link project-level actions to landscape-level objectives for sustaining populations of federal trust species and habitats. To implement SHC effectively, all Service programs must work together seamlessly and in conjunction with various conservation partners across public and private sectors. This Plan describes how we intend to conduct landscape-scale planning and partnership building to attain specific objectives over the next five years. Our approach is to:

- Develop an Ecoregion Conservation Business Plan to guide and inform conservation actions along the California coast;
- Work within Focus Areas to conserve coastal habitats, landscape processes and linkages;
- Work collaboratively with partners to protect, enhance and restore coastal habitats;
- Assure that internal and external audiences understand our program's conservation goals and capabilities;
- Recruit and retain highly skilled and motivated restoration scientists; and
- Actively assess and document the delivery and success of our conservation actions, and adapt our approach accordingly.

Introduction

The Pacific Southwest Region of the Service encompasses California, Nevada, and the Klamath Basin (Figure 1). The Coastal Program in Region 8 works along the California coast and associated watersheds. Conservation threats, issues, and concerns in this geography are diverse, significant, and wide-ranging. Careful consideration, coordination, and planning are key elements to successfully improving conditions for fish and wildlife resources in these areas.

Habitat restoration and protection are key practices that the Coastal Program employs to address conservation challenges, and to provide direct benefits to fish and wildlife and their ecosystems. The conservation needs in this Region are far greater than the Service and its partners can provide, with limited annual project funding and resources. Project prioritization and continued evaluation of program effectiveness are critical practices to ensure that the Service's habitat restoration efforts are: aimed at the highest priority conservation concerns; relevant to local, regional, and landscape-scale conservation efforts; and efficiently implemented to produce lasting conservation results.

Nationally, the Service is committed to effectively and efficiently utilizing its limited resources to carry forth its mission. The Service works with partners to develop conservation strategies that link priority species and habitats to landscapes. This approach involves coordination across a variety of scales and the use of applied science to monitor changes and track progress of projects. We rely heavily on effective collaboration with conservation and industry partners at local, regional, and national scales. Guidance and technical assistance from Landscape Conservation Cooperatives is also important for addressing conservation challenges at larger scales.

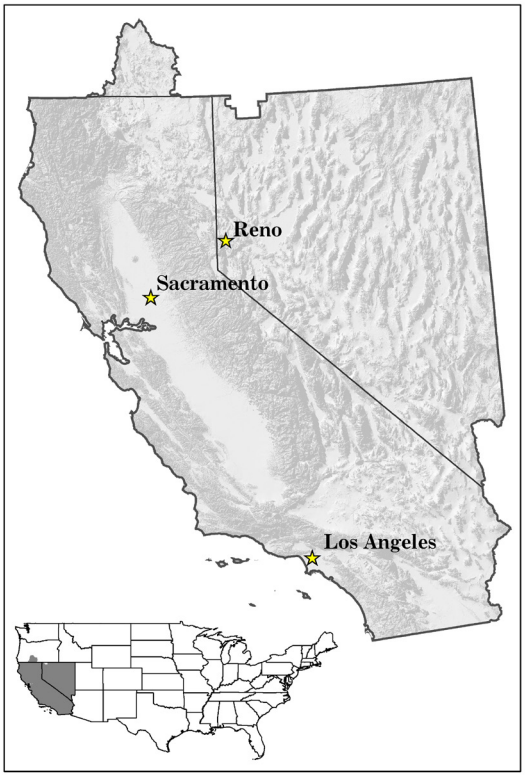


Figure 1. The Pacific Southwest Region (Region 8) of the U.S. Fish and Wildlife Service encompasses California, Nevada, and the Klamath Basin.

Landscape Conservation Design

LCC's are science-driven public-private partnerships that identify shared conservation goals at an ecosystem or ecoregion scale, and they address conservation issues that cross political, program, and agency boundaries. LCC's provide the expertise needed to support conservation planning at landscape-scales and generate the tools, methods, and data that managers need to design and deliver conservation using the SHC approach. There are four LCCs operating within and across the Region 8 boundary:

California LCC
Great Basin LCC
North Pacific LCC
Desert LCC

Carolyn Lieberman/ USFWS

Los Cerritos Wetlands Long Beach

Shawn Milar/ USFWS

Milsap Pond

Strategic Planning

This document is the third five-year strategic plan developed by the Coastal Program regionally and nationally. For the past five years, program implementation adhered to the 2012-2016 Regional Coastal Program Strategic Plan with a broad array of conservation project types implemented primarily in Focus Areas with a wide diversity of partners. There are five goals used to guide program implementation: (1) Conserve Habitat, (2) Broaden and Strengthen Partnerships, (3) Improve Information Sharing, (4) Enhance Our Workforce, and (5) Increase Accountability.

Strategic Habitat Conservation

SHC is an adaptive management framework that the Service adopted for making management decisions about where and how to deliver conservation effectively and efficiently to achieve specific biological outcomes. It is an iterative process that requires explicit objectives to inform strategic decisions about actions. SHC requires constant reassessment through adaptive management and to improve conservation techniques.

The Region 8 Coastal Program integrated the SHC framework into its operation by establishing Ecoregion Conservation Business plans to address each element in the framework. This Ecoregion approach will allow the program to address landscape-scale issues from the individual project level and to coordinate our actions on the landscape level instead of the field station level. Functioning under a SHC framework, the Coastal Program will be positioned to support larger landscape efforts identified by LCCs.

The purpose of the current Plan is to update program objectives and activities to better address the conservation challenges faced by the Service. This Plan describes how conservation tools and philosophy established and developed by the Service will support the Coastal Program in Region 8. The most significant changes in program strategy associated with this revision stem from recognizing the need to integrate more effectively with the Service's landscape-level prioritization efforts. These efforts use a science-based operating framework called Strategic Habitat Conservation. The SHC approach will enable the Coastal Program to more effectively pursue all five established goals in Region 8. The majority of changes made from the last Strategic Plan to the current Plan occur under the context of Goal 1. These revisions ensure that the Coastal Program will continue its leadership role in implementing effective conservation projects along the California coast for the next five years: 2017-2021.

This Plan describes a vision that includes implementing the Coastal Program following an SHC framework in concert with other Service programs, LCCs (through their Landscape Conservation Design (LCD) projects, and other large-scale conservation efforts. The Coastal Program will focus on: (1) Establishing clear priorities and objectives for project selection and implementation, (2) Creating a conservation business plan (as is described in the Strategic Habitat Conservation Handbook (2008) that produces results, continually evaluates success, and encourages adaptive management), (3) Ensuring better compatibility with LCD projects and other partner-based landscape-scale conservation initiatives, and (4) Improving communication to provide a clear basis for sharing objectives and accomplishments within the Service and with partners.

Landscape Conservation Design

A key element of the SHC's ability to deliver conservation on the landscape level is the development of LCD's. Once completed, the LCD is the result of a collaborative process in which partners identify the boundary of the LCD and the current and desired future conditions across the identified landscape. Partners define the conservation actions necessary to achieve the desired conditions, as well as what actions their respective entities can address.

The 2017-2021 Coastal Program Strategic Plan is designed to integrate the SHC methodology into the program, and this will become fully realized as an Ecoregion Business Plan is developed to refine priorities, establish data management, implement monitoring protocols, and provide feedback from the monitoring data that will guide future project development. All of these actions will allow the Coastal Program to contribute information into LCD's as they are being developed; this in turn will allow the LCD's to provide guidance to the Coastal Program.

Surveys/ USFWS

South Coast Seining Tidewater Goby

Coastal Program Ecoregion

For the Region 8 Habitat Restoration Division that includes the Partners for Fish and Wildlife Program, Coastal Program, and Schoolyard Habitat Program, our first step towards the integration of a more landscape-level conservation approach was to establish an organizational structure that aligned our personnel and conservation objectives into Ecoregions. We followed Ecoregion delineations used by the LCCs that form the boundaries of the LCD's, and we used modified versions of Ecoregions by Bailey (1980) using vegetation characteristics, and that were adopted by the California State Wildlife Action Plan (California Department of Fish and Wildlife 2015). Organizing the Region into Ecoregions created important links in the prioritization hierarchy that will ultimately enable us to set program priorities and accomplishment targets at the Region, Ecoregion, Focus Area, and project scales. Ecoregions align with LCC and landscape level planning efforts, and Focus Areas notate exactly where Local Program Managers will be working over the next five years.

The Ecoregion concept enables the development of a Region-wide SHC. During the implementation of the Plan, Ecoregion working groups will develop business plans to prioritize and evaluate our conservation efforts at the landscape scale, and in the context of climate change. All Coastal Program locations in Region 8 will be part of the Coastal California Ecoregion, and staff will work together to develop a coast-wide business plan that can be tailored to their specific Focus Areas. Key elements of the business plans will include: a program overview; strategic direction including interim priorities and an SHC framework design; annual funding allocation methods; workforce planning; accountability, roles, and responsibilities; and processes for resolving conflict, making decisions, and revising the document. Local Program Managers and the Regional Coordinator will develop tools to implement a landscape-scale SHC framework that will allow us to adaptively manage the Coastal Program and projects at multiple scales, and it will build off of our Coastal Program Monitoring Framework (Appendix I). Figure 2 is a map of the Region 8 Ecoregions.

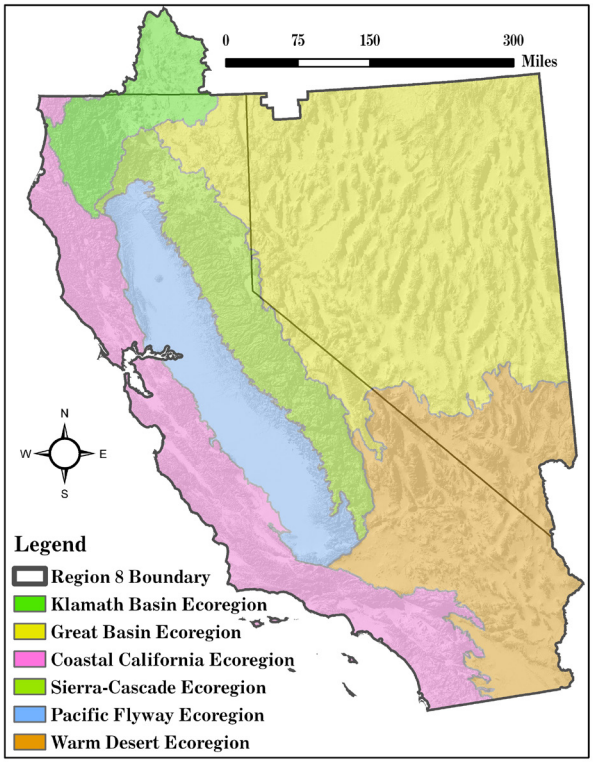


Figure 2. Partners for Fish and Wildlife and Coastal Program Ecoregions within Region 8. These are modified Bailey's (1991) Provinces and closely align with those in use by the California LCC and the California State Wildlife Action Plan.

Mission

The Service works with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. The Region 8 Coastal Program contributes to the Service's mission by providing technical and financial assistance to conserve federal trust species and habitats along the California coast. We work on private, state, and federal lands, and we partner with federal and state agencies, local municipalities, tribes, universities, private landowners, and non-profit organizations. The program focuses on restoring and protecting coastal habitats, providing technical and cost-sharing assistance, supporting community-based restoration projects, collecting and developing information on the status of and threats to federal trust species, and using outreach to promote stewardship of coastal resources.

USFWS

Ventura LA Riparian Restoration

Kenneth & Gabrielle Adelman

Pescadero Lagoon and Marsh

Strategic Goals

Goal 1: Conserve Habitat

This goal includes a series of objectives for the Coastal Program that will guide coastal conservation projects in Region 8. For the near term, we established a set of interim restoration priorities within Ecoregions that will inform decisions about habitat restoration project selection and implementation across the Region. Over the long term, implementing these objectives will ensure that a SHC framework will be developed, adopted, and executed to increase the program's scientific integrity and ability to conduct conservation on the project scale to the landscape scale. The Ecoregion structure for this Plan, in combination with SHC, will be critical in helping us to adapt project selection and techniques based upon the urgency and changing nature of regional and national conservation issues. Figure 3 illustrates the timeline and process for the incorporation of Ecoregion interim priorities, business plans, and SHC process into the Coastal Program. The details related to these interim priorities are presented in the Interim Priorities and Focus section of this plan with a more comprehensive list in Appendix II.

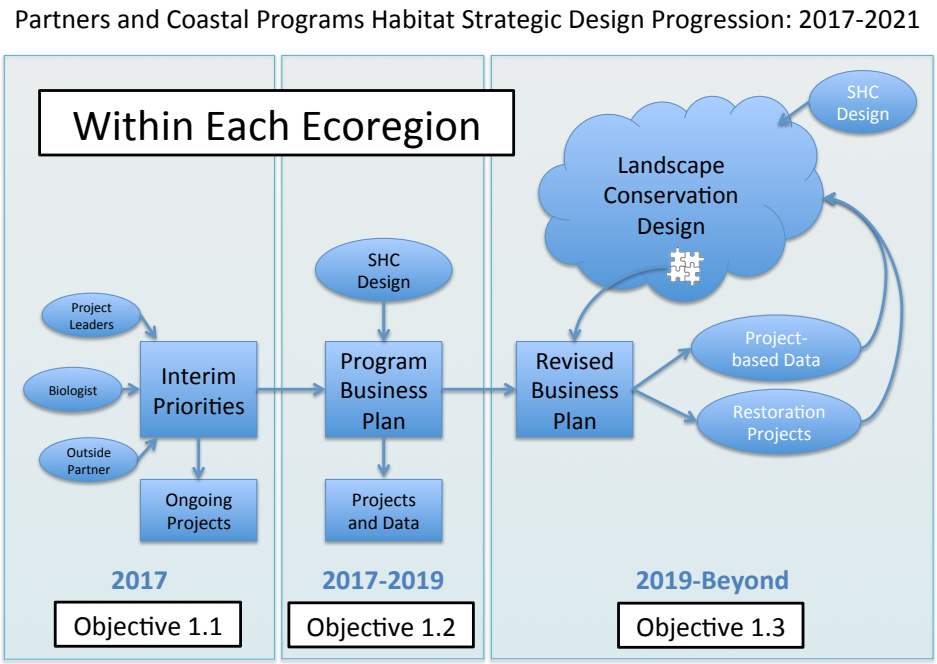


Figure 3. Illustration of how Goal 1 will be implemented using a progressive approach to aligning Coastal Program priorities, goals, and objectives with LCD's once they are fully established in Region 8.

Objective 1.1: Restore and enhance coastal habitats, processes, and ecosystems based upon established National, Regional, and Ecoregion interim priorities.

Key Strategic Activities:

- Align the Coastal Program with LCD efforts by establishing an Ecoregion approach to implement projects in a landscape context.
- Conduct priority restoration and enhancement projects within the Focus Areas.
- Incorporate climate change adaptation strategies and models into design and implementation of restoration projects.
- Develop and implement conservation projects according to collaboratively developed priorities listed in the "Coastal California Ecoregion, Focus Areas, and Interim Priorities" section of this plan.

To establish interim program priorities, we collaborated with other Service programs and a wide range of conservation partners across the Region. A series of meetings and interviews were held with key Service personnel as well as outside conservation partners in each Ecoregion to request feedback and input on where the Coastal Program and Partners for Fish and Wildlife Program can be most effective. The results of these collaborative discussions were processed by the Local Program Managers in each Ecoregion and collaboratively overlain with the program goals and capacity in each Ecoregion. Interim priorities were developed as the basis for guiding our project decision processes in each Ecoregion until the SHC framework is completed and more landscape-scale relevant plans are available in each Ecoregion.

Focus Areas are an essential component of the interim priorities design in Region 8. Focus Areas are described in detail in the "Coastal California Ecoregion, Focus Area, and Interim Priorities" section of this Plan, and they are intended to illustrate the current geography where projects will be implemented over the next five years. Focus Areas are a geographical depiction of key areas where project selection will be targeted. They are located within the Coastal California Ecoregion, cover broad landscapes and represent areas of opportunity where Coastal Program goals can be achieved and conservation of priority habitats meet the following criteria:

- Areas that align with current landscape-scale conservation efforts (e.g., LCDs, LCCs)
- Specific conservation issues can be addressed within a five-year period, and achievements will be measurable and significant by the end of the Plan's implementation;
- Areas are important to federal trust species (threatened and endangered species, migratory birds, and/or anadromous fish);
- Actions within the area support Service initiatives;
- Areas provide habitat connectivity;
- Areas present unique partnership opportunities;
- Focus in the area will improve local public relations for conservation;
- Areas have high restoration potential;
- And, actions within the areas support the implementation of recovery plans.

Diane Kodama/ USFWS

Yadon's Wallflower

Public Domain

California Least Tern

Objective 1.2: Protect priority coastal areas through partnerships for acquisition and conservation easements.

Key Strategic Activities:

- Local Program Managers will work with partners to submit at least one proposal annually to the National Coastal Wetlands Conservation Grant program (NCWG), or other acquisition funding sources to protect priority coastal habitats.
- The Regional Coordinator will work with Local Program Managers and the Wildlife and Sport Fish Restoration program to provide assistance to NCWG applicants for project design and proposal development.

Objective 1.3: Establish conservation business plans in each Ecoregion that utilize a landscape-scale Strategic Habitat Conservation framework.

The SHC framework has been adopted by the Service as a recommended approach to conservation implementation that is founded in adaptive management principles. The SHC approach has several elements that align closely with the scientific method with an emphasis on learning from conservation actions. Broadly, the framework involves planning, implementation, and evaluation elements (Figure 4), where "implementation" for the Coastal Program includes conservation delivery, and the SHC framework considers these as scientific "experiments" as much as conservation actions.

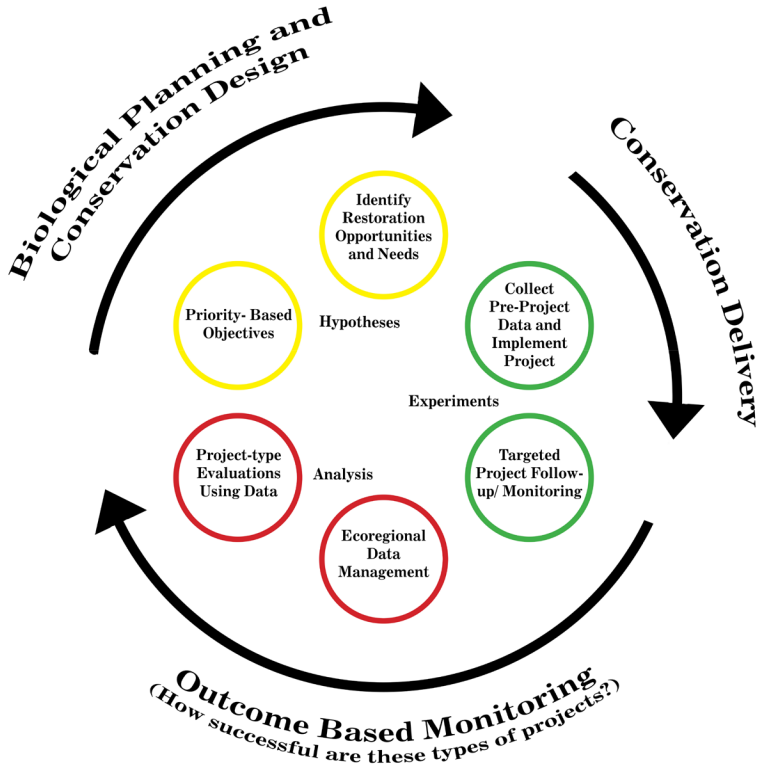


Figure 4. Illustration of Strategic Habitat Conservation process w/Coastal Program process overlay that will be embedded into Ecoregion Conservation Business Plans. Colors indicate where the Coastal Program has a well-established process (Green); where some components exist, but some need added (Yellow); where all components will need developed (Red).

We will develop a Conservation Business Plan to collectively manage the Coastal Program in conjunction with other Service programs and partners in the Coastal California Ecoregion. Key elements of the business plan will include: a program overview; strategic direction including interim priorities and an SHC framework design; annual funding allocation methods; workforce planning; accountability, roles and responsibilities; and processes for resolving conflict, making decisions, and revising the document. The Conservation Business Plan will fully establish and describe a SHC framework to be implemented in the Ecoregion including:

1. Region-wide data management plan to catalogue all project records in a scientific manner enabling comparison between projects of the same type. Data to be collected include at a minimum: a problem statement, restoration hypothesis, goals and objectives, project purpose, project design, as-built surveys, project completion reports, and monitoring results.
2. Biological planning components that set clear priorities and appropriate justifications, and that are climate-smart and relevant at the landscape-scale as well as the project-scale.
3. Conservation designs that utilize the results of restoration opportunities analyses.
4. Conservation delivery that includes restoration project design and implementation using goals and objectives that tier directly to biological planning elements.
5. Monitoring components that are simple to measure (in most cases), standardized by project type, relevant to assessing project outcomes.
6. An evaluation strategy that uses collected data to assess project outcomes in reference to stated goals and objectives at the project and landscape scales.

Ecoregion Conservation Business Plans

A critical aspect of the 2017-2021 Strategic Plan is the integration of SHC into the delivery of the Coastal Program. SHC can be viewed as a business model that articulates the process by which the program will operate. Over the past decade, the conservation community has embraced the conservation business model concept (Keen and Oureshi 2006). To remain successful and relevant, businesses must develop an operational model that explains their purpose, identifies markets to target and how they'll operate in these markets, and provides feedback on their activities (Prahalad and Hamel 1990, Drucker 1994, Keen and Qureshi 2006). A conservation strategy or strategic plan can be viewed in the same manner as a business model or plan.

The development of Ecoregion Conservation Business Plans will provide the operational structure to guide the Coastal Program and Partners for Fish and Wildlife Program. The Business Plans will be the first step towards the delivery of conservation efforts to meet regional goals for the program.

Ecoregion Conservation Business Plans are intended to establish basic processes to contribute to an enhanced landscape-scale, strategic, and ideally, successful conservation programs for the Service and partners. Ecoregions will begin developing their plans in 2017 with the expectation that plans will be completed and informing the delivery of program by 2018.

In addition to the Coastal California Ecoregion Conservation Business Plan, field stations will develop Office Action Plans that are compatible with the business plan. Office Action Plans will demonstrate how each field

station will contribute to the overall implementation of the business plan. The action plans will be dynamic documents that are revisited each year, and that include priorities, goals, objectives, proposed projects and projected accomplishments.

Key Strategic Activities:

- Develop a Conservation Business Plan that serves as a detailed SHC-based guide for the Coastal Program.
- Establish Ecoregion data management capacity that catalogues relevant data necessary to fully implement a SHC framework in each Ecoregion.
- Field stations will develop Office Action Plans that correlate to the Ecoregion and Focus Areas.

Objective 1.4. Establish a formal connection between Landscape Conservation Design concepts, tools, and products and the Coastal Program SHC framework.

Over the next five years, the Coastal Program is committed to close integration with LCD efforts in Region 8, as applicable. No formal LCD efforts in Region 8 are completed at this time, thus, we developed interim priorities for the Coastal California Ecoregion. We will work with partners on landscape level conservation efforts that are already underway, including the Humboldt Bay Initiative and the Southern California Wetlands Recovery Project.

Key Strategic Activities:

- Integrate with ongoing LCD or similar efforts in Region 8.

Goal 1 Summary:

These four objectives are intended to guide the Coastal Program in implementing a more strategic adaptive management approach to conservation decision-making by implementing a formal SHC framework that is relevant at the landscape scale. This approach will be described in the Ecoregion Conservation Business Plan. Local Program Managers will continue to implement high quality conservation projects according to their collaboratively developed interim priorities, and associated performance targets.

Goal 1 Performance Targets:

- Restore, enhance and protect coastal habitats and processes via technical and financial assistance.
- Establish Ecoregion working group comprised of Coastal Program Local Managers and the Regional Coordinator.
- Complete a Conservation Business Plan for the Ecoregion.
- A Coastal Program representative will participate in applicable ongoing LCD efforts

USFWS

Light-footed Clapper Rail

USFWS

Western Snowy Plover

Table 1. *Goal 1 Five-Year National Metrics*

Metrics
Number of Acres and Miles Conserved
Metric 1.1a: Restore and enhance 1400 acres of wetland habitat, 1050 acres of upland habitat, 17 miles of riparian and shoreline habitats, and remove 13 fish passage barriers.
Metric 1.1b: Protect 190 acres of wetland habitat and 275 acres of upland habitat.
Number of Technical Assistance Projects
Metric 1.2: Each Coastal Program location will initiate at least two technical assistance projects per year that are intended to result in habitat improvement projects.

Goal 2: Broaden and Strengthen Partnerships

The mission of the Coastal Program is to efficiently achieve voluntary habitat conservation through financial and technical assistance for the benefit of federal trust species. Partnerships result in more successful projects by pooling resources for greater impact, fostering communication, developing innovative solutions through shared technical knowledge, and increasing public support. The foundation of our program is our established partnerships and the shared interest in habitat conservation.

Objective 2.1: Cultivate existing partnerships and create incentives for future collaboration at a landscape-scale.

Key Strategic Activities:

- Work cooperatively with private landowners, Tribes, states, universities, other federal agencies, non-profit groups, and industry to conserve coastal trust resources.
- Expand Regional partnerships with LCCs, LCDs, Natural Resources Conservation Service, National Oceanic and Atmospheric Administration (NOAA), Bureau of Land Management, U.S. Geological Survey (USGS), U.S. Forest Service, California Coastal Conservancy, California Department of Fish and Wildlife, California Department of Parks and Recreation, and non-governmental organizations.
- Maintain and develop new resource-based collaborations within the Service to focus on conservation priorities and build synergy to address conservation challenges.
- Acknowledge contributions of partners by awards and/or recognition.

Objective 2.2: Seek diverse partners that reflect the economic, social, biological, and geographical composition of coastal California.

Key Strategic Activities:

- Work closely with other Service programs to facilitate cross-program coordination and to identify overlapping priorities where we can combine resources and expertise to meet specific objectives in this Plan.
- Coastal Program staff will participate in public outreach events in areas that promote communication and relationship building within diverse communities where we work.

- Coastal Program staff will provide technical support for youth internship and volunteer opportunities that help the Service to better reflect the communities we work.

Objective 2.3: Work with partners to implement landscape-level community-based adaptation strategies that address invasive species, water quality, and climate change at both the project level and Ecoregion planning scales.

Key Strategic Activities:

- Humboldt Bay Local Program Manager will participate in the Humboldt Bay Initiative (HBI). HBI involves collaboration and integration with a wide range of people, institutions, and expertise to comprehensively manage coastal areas in Humboldt Bay and associated watersheds, while minimizing conflict, addressing chronic management problems and working together on meeting future challenges.
- Central Coast Local Program Manager will lead the development, establishment and implementation the Central Coast Conservation Joint Venture (C3JV).
- Southern California Local Program Manager will participate in the Southern California Wetlands Recovery Project (SCWRP) to strengthen a network of conservation partners in southern and central California.
- San Francisco Bay Local Program Manager will participate as a technical advisor in the San Mateo County Integrated Watershed Restoration Program, on the Lagunitas Creek Technical Advisory Committee, and the Pescadero Advisory Group.

Objective 2.4: Develop new partnerships and enhance existing partnerships with the scientific community.

Key Strategic Activities:

- Work cooperatively with the North Pacific and California LCCs to identify research needs to better inform our conservation actions.
- Support SCWRP research projects that assist resource managers in prioritizing conservation actions in southern and central California.
- Communicate with scientists regarding needs for downscaled climate models with results that will help resource managers to plan and adapt to projected climate change impacts.
- Build capacity for science needs through partnerships such as LCCs, USGS, NOAA, non-profit groups and universities.
- C3JV Interim Coordinator will be located at CalPoly San Luis Obispo and will be instructing one class per quarter in the field of Conservation Biology where students will learn about the Joint Venture system, coordinated conservation actions, and help to develop foundational documents for C3JV.
- Work cooperatively with scientific partners, such as San Francisco Estuary Institute, and various watershed or project-specific technical teams to identify prioritize, plan, design and implement science based strategic restoration actions.

Goal 2 Performance Targets:

- We will strive to leverage each Coastal Program project dollar at a 1:10 ratio. Progress will be calculated annually by a Regional average.
- Local Program Managers will participate in at least one public event each year to foster new partnerships.
- The Regional Coordinator will represent the program for state, coast-wide, cross-Region, and national level partnerships.
- When applicable, Local Program Managers will present information to the Regional team on pertinent conservation problems and solutions.

- We will work with partners on a local, Regional, national and international scale to develop partnerships to benefit monarch butterflies (*Danaus plexippus plexippus*) and other pollinators.

Table 2. *Goal 2 Five-Year National Metrics*

Metrics
Number of Partnerships
Metric 2.1: Coastal Program will partner with a region-wide total of 100 organizations.
Percentage of Funds Leveraged for Projects
Metric 2.2: Completed projects will achieve a five-year regional funds ratio of 1:10.
Number of National Coastal Wetland Conservation Grant Proposals
Metric 2.3: Coastal Program staff will assist partners in preparing a regional total of 20 National Coastal Wetland Conservation Grants.

Goal 3: Improve Information Sharing and Communication

The fundamental success of any partnership is effective communication. It is essential that we exchange information with our partners, decision makers, fellow scientists, and the public to accomplish positive results for our trust resources. It is also critical that staff are skilled communicators that can build trust and respect with partners. Communication will continue to be our strongest asset and we will strive to improve it in all ways.

Objective 3.1: Improve internal communications within the Coastal Program and across programs within the Service.

Key Strategic Activities:

- Regularly collaborate and communicate common objectives and project successes that support landscape-scale accomplishments.
- Continually communicate and engage other Service programs and integrate with their activities related to the conservation of coastal habitats and processes.
- Accurately input project information into the HabITs database to ensure that project details and accomplishments are recorded and available for sharing and summarizing.
- Regional Coordinator will update the Region 8 Coastal Program Handbook by January 31 of each year to ensure program consistency and to support new staff.

Objective 3.2: Improve communications with partners, the public, the scientific community, and Congress.

Key Strategic Activities:

- Improve outreach with an increase in social media that highlights project and partnership successes.
- Maintain outreach via traditional means, such as fact sheets, conference attendance, meetings, etc.
- Seek out, establish, and use data sharing opportunities that will be created as the SHC framework is adopted
- Create data management structure that facilitates connections with other entities that can integrate Coastal

Program data sets into their restoration, climate, habitat, or other analyses.
- Support citizen science-based initiatives that monitor species and habitats in the context of conservation (e.g., Western Monarch Thanksgiving Count), and projects that connect youth with nature.

Goal 3 Performance Targets:

- The Regional Coordinator and Local Program Managers will keep websites up-to-date.
- Maintain a Regional Facebook page with postings at least twice weekly.
- Collaborate with External Affairs to highlight projects and events at least once quarterly.
- Find new collaborative project opportunities with other Service programs at least twice per year.
- Create reports summarizing and describing project and landscape-scale conservation efforts and successes.
- Host or attend at least three Congressional visits or interactions per year.
- Participate in a minimum of three events or projects per year that connect youth with nature.

Table 3. *Goal 3 Five-Year National Metrics*

Metrics
Number of Congressional Outreach Activities
Metric 3.1: In coordination with Headquarters and Regional Office staff, Coastal Program staff will conduct an annual, regional average of three Congressional outreach activities.
Number of Activities that Connect Youth to Nature
Metric 3.2: Coastal Program will sponsor or participate in an annual, regional average of three activities per year that connect youth to nature.

Goal 4: Enhance Our Workforce

The Coastal Program seeks to create the highest quality working environment to facilitate recruitment and retention of the most qualified personnel, and to enhance employee accountability. Staff will need to be equipped with the relevant skills, leadership abilities, technology, and funding to carry out strategies to protect and restore key coastal habitats and processes in California. Local Program Managers must be able to act with integrity to build trust and successful partnerships, as well as have the necessary technical knowledge to lead the design and implementation of projects in often complex sociopolitical environments.

Objective 4.1: Align program workforce to improve cost-effectiveness and to reduce administrative complexity while maximizing resources directed toward conservation.

Key Strategic Activities:

- Evaluate the results of the Ecoregion SHC framework and the resultant priorities to ensure Coastal Program success.
- Establish or refill positions with people possessing effective skill sets.
- Continue to develop tools and mechanisms encouraging healthy dialogues that promote success with

Project Leaders and Assistant Regional Directors and others in supervisory chains managing program personnel and resources.

Objective 4.2: Continue to foster and develop existing Local Program Manager skill sets to ensure that the Coastal Program maintains the most current institutional knowledge of coastal conservation science.

Key Strategic Activities:

- Provide Local Program Managers with access and opportunity to attend relevant training and development courses.
- Coordinate with Project Leaders to ensure that personnel are attending the most helpful courses for them.
- Ensure that training opportunities and institutional knowledge are shared among field stations.

Goal 4 Performance Targets:

- All program personnel will attend at least 40 hours of relevant training per year.
- Coastal Program personnel will attend and host teleconferences, webinars, and in-person informative presentations quarterly or more often as opportunities arise.
- Regional Office personnel will organize and help facilitate Regional-level sharing of technologies and tools among field offices.

Table 4: *Goal 4 Five-Year National Metrics*

Metrics
Number of Annual Hours of Staff Training
Metric 4.1: Coastal Program staff will participate in 40-hours of annual training and professional development.

Goal 5: Increase Accountability

With the institution of the SHC framework described in Goal 1, a series of new accountability measures at the field station, Ecoregion, and Regional level will be established to determine if conservation projects are meeting their objectives. Projects will be tracked and evaluated in a more scientific manner under the Ecoregion Conservation Business Plan, and via implementation of the Coastal Program Monitoring Framework.

Objective 5.1: Plan, design, implement, and assess Coastal Program restoration projects to evaluate their effectiveness and to determine if there should be changes to future techniques or project designs.

Key Strategic Activities:

- Assure that all funded projects with an on-the-ground component, include implementation monitoring.
- Local Program Managers will conduct effectiveness monitoring for at least four restoration projects at each program location by 2021.
- Ensure that monitoring needs and results are coordinated with other Service programs.
- Local Program Managers and Regional Coordinator will actively evaluate ways to incorporate results of monitoring efforts into future project design and implementation, and to incorporate "lessons learned" into

future project designs.
- Develop a library of restoration project protocols to standardize techniques for projects when appropriate.
- Develop and implement management plans at priority monarch butterfly overwintering sites and monitor effectiveness of actions.

Monitoring for this objective includes simple and directed project follow-up in an organized manner to capture whether projects are meeting stated objectives. As part of Goal 1, monitoring protocols will be identified when developing the Conservation Business Plan. These protocols will be designed so that all projects conducted for the same purpose will be monitored and tracked in the same manner across the Ecoregion. Data will be compiled and stored in a common database. Project performance measures will be tracked by geography, project type, or other parameters to feed into an adaptive management process. Monitoring protocols will be designed to be commensurate to restoration project complexity and expense. For example, simple and inexpensive projects will use simple monitoring metrics, and more complex and expensive projects will contain more involved monitoring.

Objective 5.2: Institute accountability measures to track funding and other administrative aspects of the Coastal Program.

Key Strategic Activities:

- Track spending annually in concert with field stations to ensure that funding targets are met according to program policies.
- Produce an annual accomplishment report that describes: (1) program accomplishments; and (2) provides program and administrative data to summarize the status of the Coastal Program Region-wide.
- Ensure that accomplishment reporting (into HabITs) is accurate, thorough, and consistent across the Region.

Tracking and reporting progress using Coastal Program accomplishment, funding, partnership, and administrative data is an important component of program management and success. This strategic plan and the metrics described herein will serve as the foundation for tracking program progress. More specific accountability measures will be established in the Conservation Business Plan.

Goal 5 Performance Targets:

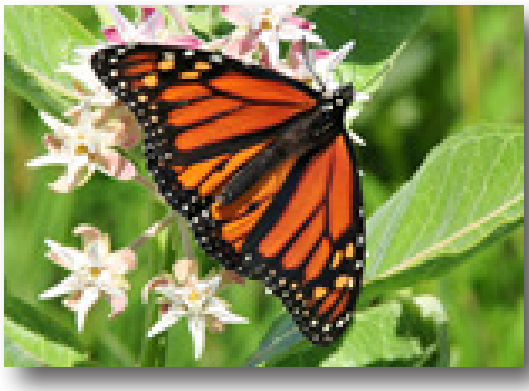
- Implementation and compliance monitoring will be completed for each project.
- Develop a Conservation Business Plan that includes key elements necessary to evaluate project success at the project and landscape scales.
- At least four projects will be evaluated using effectiveness monitoring at each field office during the duration of this Plan.

Table 5. *Goal 5 Five-Year National Metrics.*

Metrics
Number of Regional Accomplishments Reports
Metric 5.1: The Regional Coordinator will produce an annual program accomplishment report.
Percentage of Projects Monitored for Implementation and Compliance
Metric 5.2: Field staff will monitor 100% of completed habitat restoration projects for implementation and compliance, and four projects per field office location will be evaluated via effectiveness monitoring by 2021.
Number of Program Management Reviews
Metric 5.3: The Regional Coordinator will conduct annual reviews of field office spending allocations.
Number of Field Office Spending Reviews for 1124 Funds
Metric 5.4: The Regional Coordinator will conduct annual reviews of field office spending allocations.

USFWS

Salt Marsh Harvest Mouse



Tom Koemer/ USFWS

Monarch Butterfly

Coastal California Ecoregion, Focus Areas, and Interim Priorities

In early 2016, the Coastal Program and Partners for Fish and Wildlife Program initiated a planning process that involved internal and external partners throughout Region 8 to re-evaluate Regional program priorities. A standard set of "interview questions" (Appendix III) was developed that were intended to guide discussions about current and future Coastal Program priorities. Local Program Managers met with internal and external partners to gather input by completing the interviews using the interview questions as a guide. Meetings were held with: Service field station leadership and personnel from across the Region (i.e., Project Leaders and other program leads including from Service offices without Coastal Program representation); Regional Office program leads (National Wildlife Refuges; Ecological Services; Science Applications; External Affairs; and the Director's Office); local external partners such as private non-profit conservation organizations, landowners, resource conservation districts, state agencies, etc.

In mid-spring 2016, a Strategic Planning workshop was held, where the Coastal Program personnel formed an Ecoregion working group. We synthesized the data collected for the Coastal California Ecoregion, and we evaluated conservation targets using certain criteria such as: program relevance, limiting factors, restoration potential, Climate Smart Conservation, relevance to LCC 5-year goals, relation to Focus Areas identified in the previous Strategic Plan, etc. We ranked conservation targets qualitatively (High, Medium, or Low) for the Ecoregion. High and Medium ranking conservation priorities were used to establish the Focus Area targets and interim priorities listed in Appendix II.

Coastal California Ecoregion

The Coastal California Ecoregion encompasses nearly 1,110 miles of diverse California coastline and contains habitats for many threatened and endangered species, including marine mammals; it is also where the State's population is concentrated. Approximately 80 percent of the State's 35 million residents live within 30 miles of the coast, and this number continues to rise (Griggs et al. 2005). Southern California and San Francisco Bay's coastal areas are heavily urbanized, making protection of the remaining natural habitats essential for the rare species that reside there. Big Sur, along the central coast, and northern counties, such as Mendocino and Humboldt, contain coastlines that are relatively pristine, where the topography is too rugged for development and much of the land is under permanent protection (Griggs et al. 2005). However, even the protected areas suffer impacts from degradation to adjacent lands and altered watershed processes. These impacts include development and use for recreational purposes; habitat fragmentation and fish passage blockages due to road crossings and diking; reductions and fluctuations in coastal stream flow due to water withdrawals, diking and filling of estuary and lagoon systems; floodplain disconnection and related channel incision; elevated sediment supply and transport into coastal aquatic habitats; and disruption of the natural opening and closure cycles of bar-built estuarine systems resulting in dramatic effects on lagoon ecological function. The California coastal habitat types range from terrestrial areas of beaches, dunes, prairies, and mixed conifer forests to aquatic areas that include tidal marshes, lagoons, brackish/freshwater marshes,

sloughs, estuarine areas and associated coastal stream and riparian systems.

Monarch Butterfly and Pollinator Conservation

Monarch butterfly populations in North America are in decline, and the Service was petitioned to list the species as threatened under the Endangered Species Act in 2014. A final listing decision will be completed in 2019. In 2015, the Service declared monarch butterfly conservation one of five National Priority Initiatives for the agency. To conserve monarch butterflies and their migratory phenomena, a collaborative conservation effort unprecedented in geographic scope and magnitude is required. Protection and restoration of lands for monarchs is beneficial to many other species, including other pollinators. In the spring and summer, western monarchs breed and migrate throughout states west of the Rocky Mountains, and then they migrate in the fall to spend the winter in tree groves, primarily along the California coast.

As of 2016, California coastal overwintering monarchs had declined by approximately 74% from the long term average population size. Threats to western monarchs are poorly understood, but habitat loss, pesticide use, drought, climate change and disease are all likely limiting factors. In coastal California, monarch overwintering sites are dispersed from Mendocino County to Baja California, Mexico. More than half of the sites deemed as priority for them are on public lands, but some are on private lands like golf courses and oil or natural gas facilities (Pelton et al. 2016). The Coastal Program is working with partners to gather more information on the specific habitat conditions that monarchs need for overwintering sites, including investigation of the movement between sites throughout the winter. The Coastal Program will work with other Service programs and partners to assess priority monarch overwintering sites for habitat protection, restoration, and enhancement actions. We will develop and implement management plans for overwintering sites, and monitor habitat variables to continue to evaluate the benefit of our conservation actions.

Focus Areas

In 2012, Focus Areas were created through a similar process as the interim priority exercise described above, where geographic areas of emphasis were defined by a unique list of conservation objectives, restoration opportunities, potential project partnerships, and five year targets for the Strategic Plan (2012-2016). Each of the prior Focus Areas were re-evaluated using the interim priorities developed for the current Plan. Minor revisions were made to Focus Area names and descriptions for this Plan. These revisions resulted in improved Focus Areas within the Coastal California Ecoregion where the majority of the projects will be implemented. There are five Focus Areas identified for this Plan (Figure 5).

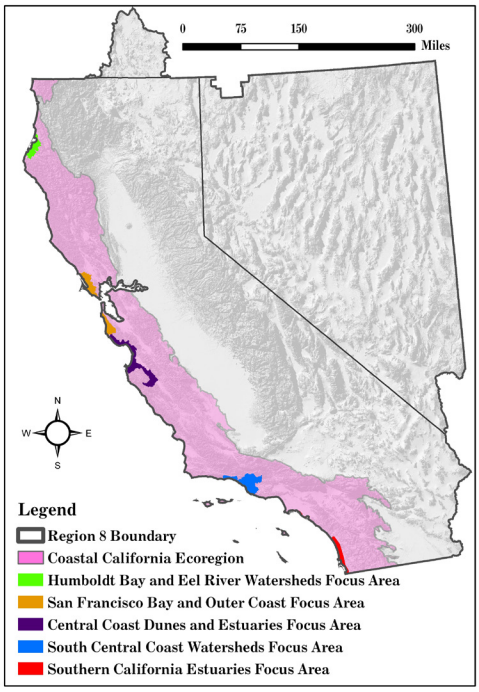


Figure 5. Coastal Ecoregion and Focus Areas Map

Humboldt Bay and Eel River Watersheds Focus Area

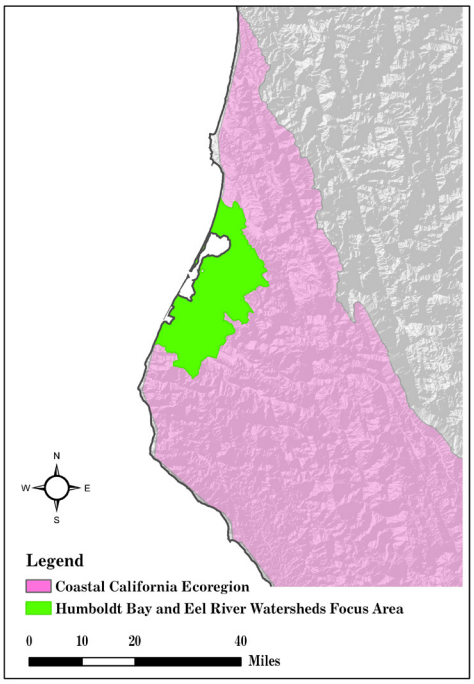


Figure 6. Humboldt Bay and Eel River Watersheds

Located approximately 350 miles north of San Francisco along the rugged coast of California, the 311-square mile Focus Area (Figure 6) encompasses Humboldt Bay and the estuaries of the Eel and Mad Rivers. Bordered by the cities of Eureka and Arcata, Humboldt Bay is California's second largest natural coastal bay. The area is characterized by a diversity of fish and wildlife species, Native American cultures, rural communities, and an economy dependent upon natural resources. Watersheds in the area are geologically young and experience a high rate of tectonic activity. Rainfall amounts are among the highest in the state with frequent fog and cool temperatures along the coast. Surrounded by the coastal mountains, the landscape includes dunes, coastal prairies, streams and rivers, mixed conifer forests, including redwoods, estuaries, and marshes. Landscapes within the Focus Area have been significantly altered and impacted by land management activities since the late 1800s. However, the relatively low population density (when compared with the rest of the State) and the rural nature of the area, allows for many opportunities to work with both public and private landowners, and agencies to improve habitats. Major land uses in the area include oyster culture, dairy and beef cattle, timber production, organic farming, unregulated cannabis production, rural subdivision development and tourism.

The Coastal Program is a key partner in the Humboldt Bay Initiative, a coordinated resource management framework that links the needs of people, habitats and species by increasing scientific understanding of the ecosystem. The Coastal Program is also a partner for projects in the Eel River Estuary. Projects contain complex social and ecological conservation challenges, and the Coastal Program strives to bring objective viewpoints, effective problem solving, and science to a diverse array of partners.

Habitat Targets and Species:

Nearly 40 percent of the eelgrass beds in the state occur in Humboldt Bay and serve as habitat for juvenile Dungeness crab, rockfish, salmonids, shorebirds, waterfowl and marine birds. Priority federal trust species include migratory songbirds, waterbirds, federally listed southern Oregon/ northern California coasts coho (*Oncorhynchus kisutch*) and California coastal chinook salmon (*Oncorhynchus tshawytscha*), northern California steelhead trout (*Oncorhynchus mykiss*), tidewater goby (*Eucyclogobius newberryi*) , red-legged frog (*Rana aurora*) , and native dune plant communities. Program priorities are to: 1) eradicate invasive species in coastal dunes, salt marshes and riparian areas along streams; 2) restore complexity and connectivity of streams and small estuaries to their floodplains; 3) improve the function of riverine estuaries by providing complexity and structure to areas devoid of habitat for fish and wildlife; 4) work with diverse partners in a collaborative manner to address the complexities of planning for climate change and sea level rise.

Table 6a. Habitat Targets and Objectives for Humboldt Bay and Eel River Watersheds Focus Area.

	Habitat Target	Objective	Conservation Strategy	Five-Year Performance Metrics
High Priority	**Salt Marsh/Subtidal Aquatic/Salt Pan/Bar Built Estuary**	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Construct ground elevations to create upland transition zone; Wetland Restoration	150 acres
	Slough/Streams and Riparian/Freshwater Wetlands	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems; Improve water quality.	Reconnect channels to estuary; Remove non-native plants; install buffers for water quality; Riparian Restoration	2 miles
			Wetland Protection	60 acres
			Wetlands Restoration	230 acres
	Dune and Prairie	Conserve the mosaic of habitats types and associated processes that support coastal prairie and dune ecosystems.	Invasive plant removal; Fencing; Upland Restoration	10 acres
			Upland Protection	155 acres
	Native grassland/Forb land/Oak woodland	Restore forest and grassland health and function.	Improve grazing practices; remove invasive plants; plant acorns	Technical Assistance
Moderate Priority	**Bay**	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Remove fill; Replace or remove tidegates; Wetland Restoration	20 acres
	Inland Valleys and Ranges	Work with private landowners to improve upland habitats and to connect to other conserved lands.	Grazing plans; forest management; native plants; Upland Restoration	10 acres
	Inland Ranges Riparian and Interior Freshwater	Work with private landowners to improve riparian habitats, natural springs, and to connect to other conserved lands.	Remove invasive plants; fencing; native plants; Riparian Restoration	3.25 miles
	Monarch Butterfly and Pollinator Habitat	Create migratory and breeding habitat for monarch butterflies and other pollinators.	Plant native nectar plants and milkweed; Upland Restoration	0.5 acres
	Coastal Freshwater Streams and Floodplains	Conserve the process that support and functions of habitats types associated with stream systems; Floodplain reconnection	Off channel habitat restoration; flow enhancement; Riparian Restoration	1.5 miles
			Fish barrier removal	6 barriers

Table 6b. Humboldt Bay and Eel River Watersheds Focus Area Metrics Totals.

Humboldt Bay and Eel River Watersheds Focus Area	Five-Year Performance Metrics Totals
Upland Acres Restored	20
Wetland Acres Restored	400
Riparian/Shoreline Miles Restored	6.75
Fish Barrier Removal	6
Upland Acres Protected	155
Wetland Acres Protected	60
Riparian Shoreline Miles Protected	0

San Francisco Bay Outer Coast Focus Area

The San Francisco Bay Outer Coast Focus Area (Figure 7) includes the coastline from the Santa Cruz-San Mateo County boundary on the south up to the Sonoma-Mendocino County Boundary in the north, and it extends inland to include coastal watersheds draining into the area. The focal habitats include salt marshes, lagoons, streams, riparian corridors, nearshore, and associated upland habitats that support ecosystem processes. The area possesses the central California coast's distinct maritime climate (cool with little temperature variation), as opposed to the more continentally influenced climates in the San Francisco Bay Estuary. South of the Golden Gate, in San Mateo County, coastal aquatic habitats include small tidal marshes and lagoons, often brackish and/or seasonally fresh in character, and often occurring at the mouth of streams. Systems may be open to tidal influence either seasonally (with closure often due to seasonal sandbar formation at the mouth) or continuously, and they also support additional freshwater marsh and riparian components. The largest of these systems is the Pescadero-Butano Creek Marsh/Lagoon and the Pescadero-Butano Watershed. North of the Golden Gate, the Marin coastline includes many sheltered embayments (lagoons or esteros) along larger open bays, as well as smaller independent lagoons and creek mouths, with associated coastal watersheds and streams. Stream systems also support freshwater wetlands and riparian ecotones.

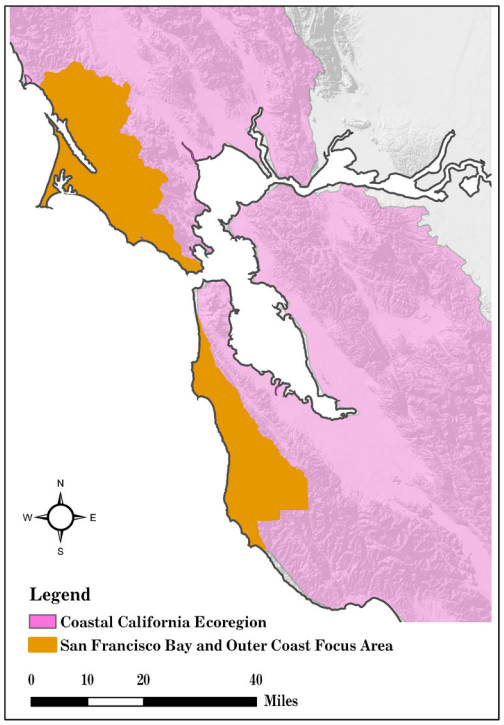


Figure 7. San Francisco Bay and Outer Coast

Habitat Targets and Species

The Coastal Program and partners will use a process-based, strategic watershed approach to conserve aquatic habitats and associated processes. Many habitats within the Focus Area are impacted by disruption of supporting processes at the watershed scale, and fragmentation and disconnection that impairs the function of even relatively intact habitats. Examples of impacted systems include floodplains and marshes disconnected from streams and fluvial processes via channel incision, diking or land subsidence, and estuarine marshes and lagoons disconnected from tidal influence and impaired by altered fluvial sediment processes. The Coastal Program will work with partners to restore disrupted

processes at the watershed scale where possible. The Focus Area includes much of the Central Coast Recovery Unit described in the Service's Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (USFWS 2013). Priority federal trust species include: the federally listed California clapper rail (*Rallus longirostris obsoletus*), central coast steelhead trout, central coast coho salmon, San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), California red-legged frog (*Rana draytonii*), tidewater goby, and the Pacific lamprey (*Lampetra tridentate*), a species of concern. As upland, stream, and wetland processes and habitats are restored, numerous sensitive flora species will also be restored.

Table 7a. Habitat Targets and Objectives for San Francisco Bay Outer Coast Focus Area

Overarching Strategy: Restore function/ecological connectivity to coastal watersheds including uplands, riparian corridors, streams, floodplains, freshwater/estuarine wetlands, and lagoons.				
	Habitat Target	**Objective**	**Restoration Strategy**	**Five-Year Performance Metrics**
High Priority	**Floodplains/ Freshwater and Estuarine Wetlands**	Restore channel/floodplain connectivity, floodplain habitats, sediment transport and storage processes.	Reconnect floodplains via channel aggradation, floodplain lowering, dike removal/floodplain aggradation; Wetland Restoration	300 acres
			Upland Restoration	100 acres
	Stream Channel	Restore channel/ floodplain connectivity, stream and riparian habitats, sediment transport and storage processes.	Reverse channel incision via roughening/ aggradation, reconnect channels via floodplain/marsh aggradation; Stream Restoration	5 miles
	Floodplains/Fluvial Function	Restore floodplain sediment storage and reduce downstream delivery via floodplain reconnection.	Reconnect floodplains via channel aggradation, floodplain lowering; Restoration of sediment storage capacity	200,000 cubic yards
	Lagoon	Restore fluvial and tidal connections to Lagoon System	Restore tidal and fluvial function & sediment storage to bar built estuarine lagoons; Wetland Restoration	200 acres
Moderate Priority	**Grassland/Coastal Shrub/Forest**	Restore upland habitats and reduce sediment supply to downstream aquatic habitats; native vegetation restoration	Restore hillslope gullies, contain sediment from unrepairable gullies, restore soil health, remove invasive plants; native vegetation; Upland Restoration	400 acres
	Freshwater Streams and Lagoons	Reconnect disconnected aquatic habitats	Remove fish passage barriers	2 barriers

Table 7b. San Francisco Bay Outer Coast Focus Area Metrics Totals.

San Francisco Bay Outer Coast Focus Area	Five-Year Performance Metrics Totals
Upland Acres Restored	500
Wetland Acres Restored	500
Riparian/Shoreline Miles Restored	5
Fish Barrier Removal	2
Upland Acres Protected	0
Wetland Acres Protected	0
Riparian Shoreline Miles Protected	0

Central Coast Dunes and Estuaries Focus Area

The Central Coast Dunes and Estuaries Focus Area (Figure 8) encompasses approximately 92 miles of dunes/beaches/coastal bluffs, 1,600 acres of wetlands, and 124 miles of rivers and numerous smaller streams that drain into the Monterey Bay National Marine Sanctuary. The Focus Area includes six ecologically important watersheds and wetlands including Carmel River and lagoon, Salinas River and lagoon, Arroyo Seco River, Elkhorn Slough and estuary, Pajaro River, Watsonville Slough system, San Lorenzo River and Scott Creek. This area also includes several small coastal watersheds and their associated lagoons and wetlands including Moro Cojo Slough, Bennett Slough, McClusky Slough, Soquel Creek, and Laguna Creek. These smaller watersheds provide essential habitat to many native species and they play an important role in linking habitats between the larger coastal watersheds along the coast. Beaches, dunes, and coastal bluffs provide important habitat to sensitive shorebird species, plants, invertebrates, and marine mammals. Habitats include wetlands (estuaries, lagoons, river inlets, riverine and riparian) and uplands (coastal dune, scrub, and prairie).

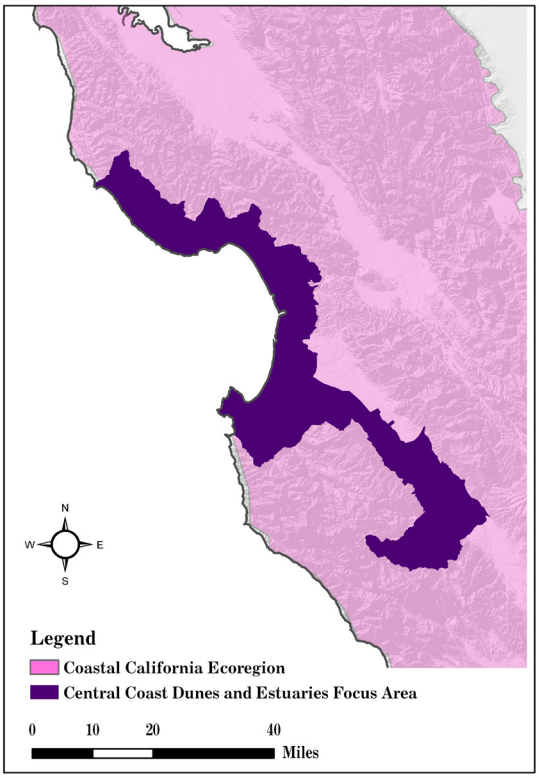


Figure 8. Central Coast Dunes and Estuaries

Habitat Targets and Species

This 520,000-acre Focus Area provides habitat for 36 Federally listed species and includes three regions designated by the California chapter of the Audubon Society as Important Bird Areas of Global and State priority. The landscape contains densely populated areas, but it is still largely agricultural and rural, allowing for opportunities to maintain and enhance linkages within the interconnected marine, coastal, and mountain habitats of the region. Priority species in the focus area are: California red-legged frog, California tiger salamander (*Ambystoma californiense*), Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*), western snowy plover (*Charadrius alexandrinus nivosus*), tidewater goby, Santa Cruz tarplant (*Holocarphra macradenia*), central coast coho and steelhead trout; native pollinators including the Smith's Blue butterfly (*Euphilotes enoptes smithi*) and the monarch butterfly.

Table 8a. Habitat Targets and Objectives for Central Coast Dunes and Estuaries Focus Area

	Habitat Target	Objective	Conservation Strategy	Five-Year Performance Metrics
High Priority	**Prairie/Native Dune Shrub and Woodland**	Conserve the mosaic of habitats types and associated processes that support coastal dunes, coastal prairies, and adjacent woodland/forest ecosystems.	Remove invasive plants; Install native plants; Upland Restoration	235 acres
			Coastal Prairie Upland Protection	120 acres
	Monarch and Pollinator Habitat	Restore and enhance monarch breeding areas and overwintering sites.	Plant milkweed and nectar plants, as appropriate; Upland Restoration	35 acres
			Restore and enhance overwintering groves; Upland Restoration	2 acres
			Develop and implement overwintering management plan	1 site plan
	Dunes and Freshwater Inputs	Conserve mosaic of habitats and processes that support relevant estuarine ecosystems.	Wetland Restoration	200 acres
	Coastal Freshwater Springs and Ponds	Conserve ponds and associated uplands to support ecological processes for sensitive coastal amphibian species.	Improve hydroperiod; Wetland Restoration	15 acres
Moderate Priority	**Coastal Freshwater Streams and Floodplains**	Conserve the process that support and functions of habitats types associated with stream systems.	Fish Passage Barrier Removal	3 barriers
	Salt Marsh and Subtidal Aquatic	Conserve mosaic of habitats and processes that support relevant estuarine ecosystems.	Remove invasive plants; Construct ground elevations; Upland Restoration	75 acres
			Wetland Restoration	1 acre

Table 8b. Central Coast Dunes and Estuaries Focus Area Metrics Totals.

Central Coast Dunes and Estuaries Focus Area	Five-Year Performance Metrics Totals
Upland Acres Restored	347
Wetland Acres Restored	216
Riparian/Shoreline Miles Restored	0
Fish Barrier Removal	3
Upland Acres Protected	120
Wetland Acres Protected	0
Riparian Shoreline Miles Protected	0

South Central Coast Watersheds Focus Area

The South Central Coast Watersheds Focus Area (Figure 9) encompasses approximately 3,200 acres of dunes/beaches/coastal bluffs, 3,100 acres of wetlands, and many miles of rivers that drain into waters of the Santa Barbara Channel, and eventually habitats of the Channel Islands National Marine Sanctuary. The Focus Area includes several ecologically important watersheds and wetlands, including Devereux Slough, Goleta Slough, Carpinteria Salt Marsh, Ventura River and estuary, Santa Clara River and estuary, Ormond Lagoon, and Mugu Lagoon. The area also includes several small coastal watersheds and their associated lagoons and wetlands, including Arroyo Burro Creek, Mission Creek, Carpinteria Creek, Gobernador Creek and many others. These smaller watersheds provide essential habitat to many native species in the area and play an important role in linking habitats between the larger coastal watersheds. Beaches, dunes, and coastal bluffs provide important habitat to a number of sensitive shorebird species, plants, invertebrates, and marine mammals.

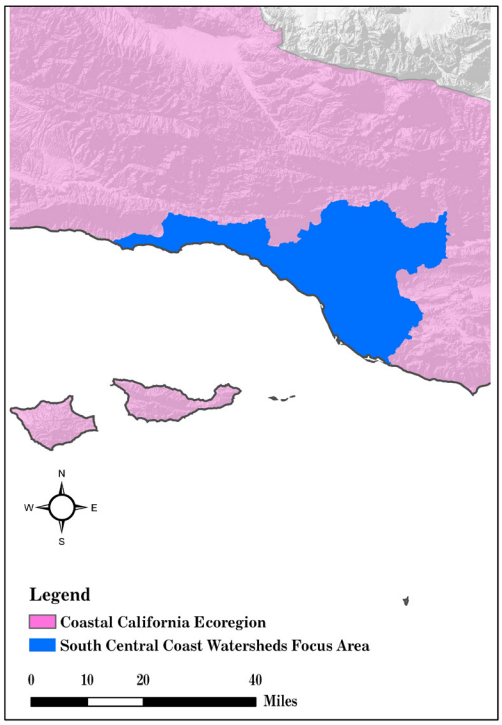


Figure 9. South Central Coast Watersheds

Habitat Targets and Species

In total, the 415,000-acre Focus Area provides habitat for over 18 federally listed species and includes four regions designated by California Audubon as Important Bird Areas of Global and State priority. The region includes some densely populated areas, but it is still largely agricultural and rural, allowing for opportunities to maintain and enhance linkages within interconnected marine, coastal, and mountain habitats. Maintaining and enhancing linkages will be a key conservation strategy throughout the Focus Area, and it will be essential to allow for species' migration and travel corridors, as well as to facilitate habitat resilience in the face of climate change. Priority species include: tidewater goby, California red-legged frog, Ventura marsh milk-vetch (*Astragalus pycnostachyus var. lanosissimus*), monarch butterfly, southern California steelhead, Belding's Savannah sparrow (*Passerculus sandwichensis beldingi*), and many shorebirds. Restoration of riparian habitats will support the long-term recovery of two federally listed bird species, the southwestern willow flycatcher (*Empidonax traillii extimus*) and least Bell's vireo (*Vireo bellii pusillus*).

Table 9a. Habitat Targets and Objectives for South Central Coast Watersheds Focus Area

	Habitat Target	Objective	Conservation Strategy	Five-Year Performance Metrics
High Priority	**Dunes**	Conserve mosaic of habitats and associated processes that support coastal dune ecosystems.	Invasive plant removal; Install native plants; Fencing; Upland Restoration	60 acres
	Salt Marsh/Upland Transition Zone/Mud Flat	Conserve mosaic of habitats and associated processes that support estuarine ecosystems.	Wetland Restoration	55 acres
			Wetland Protection	120 acres
	Monarch and Pollinator	Restore and enhance migratory and breeding habitat for monarchs.	Upland Restoration	10 acres
	Monarch Overwintering	Protect and restore monarch butterfly overwintering groves.	Upland Restoration	2 acres
			Upland Protection	1 acre
			Management Plan Development	2 plans
	Coastal Freshwater Streams and Floodplains	Conserve mosaic of habitats and processes that support estuarine and freshwater ecosystems.	Fish Barrier Removal	2 barriers
Moderate Priority	**Salt Pan**	Conserve mosaic of habitats and associated processes that support estuarine ecosystems.	Wetland Restoration	10 acres
			Wetland Protection	10 acres
	Coastal Freshwater and Ponds	Conserve ponds, vernal pools, and associated processes between wetlands and uplands.	Wetland Restoration	1 acre

Table 9b. South Central Coast Watersheds Focus Area Metrics Totals.

South Central Coast Watersheds Focus Area	Five-Year Performance Metrics Totals
Upland Acres Restored	72
Wetland Acres Restored	66
Riparian/Shoreline Miles Restored	0
Fish Barrier Removal	2
Upland Acres Protected	1
Wetland Acres Protected	130
Riparian Shoreline Miles Protected	0

Southern California Estuaries Focus Area

The Southern California Estuaries Focus Area encompasses the western portion of several coastal watersheds, and it occurs within the South Coast Subregion of Southwestern California Region's Floristic Province identified by Hickman (1993). Though most of the lands in this area are developed, regionally significant habitats for federally listed species and migratory birds occur within coastal lagoons and estuaries that dot the coastline. The Coastal Program will assist in restoring and protecting the remaining functional habitat areas for native species. Three distinct areas are included in the Focus Area; two areas occur within northern Orange County, and the northernmost area includes Colorado Lagoon, Los Cerritos Wetlands, Seal Beach National Wildlife Refuge, and Bolsa Chica Wetlands. The central area includes Orange Coast River Park and Upper Newport Bay. The southernmost area is located within San Diego County, and includes: Buena Vista Lagoon, San Elijo Lagoon, San Dieguito Lagoon, San Diego River, San Diego Bay, and the Tijuana River Valley.

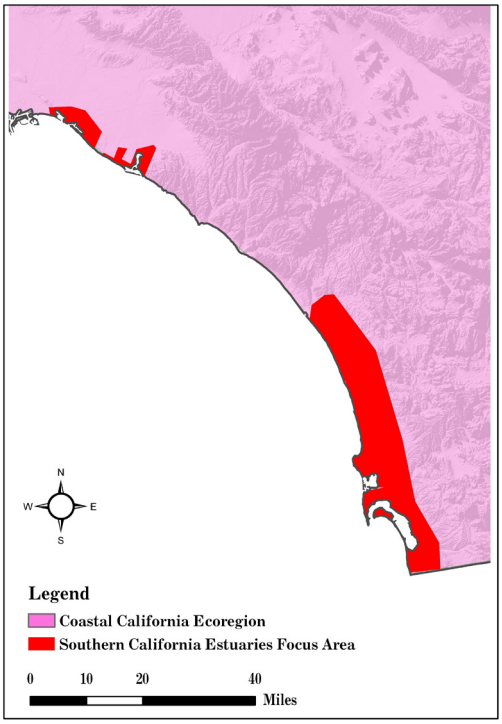


Figure 10. Southern California Estuaries

Habitat Targets and Species

This Focus Area contains priority coastal ecosystems and federal trust species that will benefit from Coastal Program technical and financial assistance. Coastal ecosystems that will be targeted for conservation include coastal dunes, mudflats, salt marsh, salt marsh-native upland ecotones, riparian wetlands, and rare uplands. These ecosystems are targeted for conservation because they support landscape processes, sensitive species, and have undergone a regionally significant decline. Mudflats provide foraging and roosting habitat for both resident shorebirds, such as the western snowy plover, and for shorebirds traveling along the Pacific flyway. Low elevation salt marsh provides nesting habitat for Ridgway's rail (*Rallus obsoletus*) and nursery habitat for important prey resources for California least tern (*Sternula antillarum browni*). Mid elevation salt marsh provides habitat for Belding's savannah sparrow. Upper salt marsh provides habitat for salt-marsh bird's beak (*Cordylanthus maritimus*) and rare invertebrates (i.e., salt marsh skipper [*Panoquina panoquin*]). Salt marsh-upland ecotone habitats provide foraging habitat and upland refugia during high tide for Ridgway's rails, habitat for pollinators of salt marsh bird's beak, and migration of salt marsh in the event of sea level rise. Riparian habitat provides habitat for federally listed species and migratory birds, and it affects downstream coastal habitats through watersheds/flow processes. Rare uplands can provide habitats such as, vernal pools for federally listed fairy shrimp and plants, nest sites for California least tern and western snowy plover, aeolian soils on south facing slopes for Pacific pocket mouse, and other rare habitat types (e.g., Southern Maritime Chaparral and Maritime Succulent Scrub).

Table 10a. Habitat Targets and Objectives for Southern California Estuaries Focus Area.

	Habitat Target	Objective	Conservation Strategy	Five-Year Performance Metrics
High Priority	**Salt Marsh**	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Construct ground elevations to create upland transition zone; Upland Restoration	5 acres
			Wetland Restoration	50 acres
	Shallow Subtidal Aquatic	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Create substrate for oyster recruitment; Wetland Restoration	5 acres
			Riparian Restoration	0.5 mile
	Streams and Riparian	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Wetland Restoration	165 acres
			Riparian Restoration	3 miles
	Coastal Uplands	Conserve and improve coastal sage scrub habitat.	Upland Restoration	104 acres
Moderate Priority	**Streams**	Conserve mosaic of habitat types associated with processes that support estuarine ecosystems.	Remove sediment and invasive plants; Riparian restoration	1.5 miles
	Coastal Dunes	Conserve habitat mosaic and processes to support coastal dune system.	Invasive plant removal; native plants; fencing; Upland Restoration	1 acre

Table 10b. Southern California Estuaries Focus Area Metrics Totals.

Southern California Estuaries Focus Area	Five-Year Performance Metrics Totals
Upland Acres Restored	110
Wetland Acres Restored	220
Riparian/Shoreline Miles Restored	5
Fish Barrier Removal	0
Upland Acres Protected	0
Wetland Acres Protected	0
Riparian Shoreline Miles Protected	0

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Appendix I: Coastal Program Monitoring Framework

Introduction

The Coastal Program is a voluntary fish and wildlife conservation program that supports habitat restoration and protection projects in high-priority coastal areas. Projects vary from localized to watershed-scale, and can include long-term collaborative strategic resource planning to prioritize projects across a landscape. We work on private, state, and federal lands, and partner with other agencies, tribes, citizens, and non-profit organizations. The Program focuses on restoring and protecting coastal habitats, providing technical and cost-sharing assistance, supporting community-based restoration projects, collecting and developing information on the status of and threats to federal trust species, and using outreach to promote stewardship of coastal resources.

The Coastal Program in the Pacific Southwest Region (Region 8) will use a standardized implementation, effectiveness, and validation monitoring approach for project development and assessment. This approach will allow us to transparently evaluate our projects, the overall program effectiveness, as well as provide the program and our partners with better tools for applying adaptive management. We adapted best practices and protocols from multiple sources currently in use to design our approach. The value of using existing methods for monitoring (e.g., Lewis et al. 2009, Woodward and Hollar 2011) is that the protocols have been tested, and that they can be compared and repeated across project sites.

Purpose and Need

It is the policy of the Coastal Program that each Region develops a monitoring plan to evaluate the success of habitat improvement projects. Coastal Program projects often involve multiple federal, state, non-profit and private landowner partners and funding sources; thus, knowledge gained through monitoring the successes and failures of projects can help to inform future project design, management, and maintenance decisions for all parties. Appropriate and cost-effective monitoring is crucial to adaptively manage restoration projects and programs, and to assess whether projects are meeting goals and objectives, and thus, functioning as intended. To fulfill these needs, the Region 8 Coastal Program developed a Project Monitoring Framework to establish an implementation, effectiveness, and validation approach that will guide the four local programs (Humboldt Bay, San Francisco Bay, Central California Coast, and Southern California).

The Region 8 Coastal Program will work with partners and other U.S. Fish & Wildlife Service (Service) programs to incorporate our projects into larger-scale validation or outcome-based monitoring efforts, especially those that incorporate Strategic Habitat Conservation (SHC) or Landscape Conservation Cooperative (LCC) efforts. SHC is the Service's approach to adaptive management that informs decisions about where and how to expend resources for wildlife species or groups of species, in identified priority areas or landscapes of particular biological importance. Our monitoring efforts will support the Service's SHC approach. The goals of our Monitoring Framework are to:

- Develop a clear problem statement and restoration hypothesis for all projects;
- Identify goals and measurable objectives for all projects;
- Assess whether all projects were implemented as planned;
- Assess whether objectives were achieved on a subset of projects;
- Learn from projects, and share relevant results within the Coastal Program and with partners, and thereby improve implementation of future projects across the Region;
- Identify information and research needs; and
- Incorporate Coastal Program projects in larger scale validation or biological-response monitoring efforts when possible.

Project Monitoring Framework

Our monitoring approach has been well documented in the literature (Beamer et al. 1998; Reeves et al. 2002; Collins 2003; Derr et al. 2005; and Roni et al. 2005, Lewis et al. 2009, Skidmore et al. 2011, Trinity River Restoration Program Integrated Assessment Plan 2009, Woodward and Hollar 2011). Implementation monitoring refers to assessing whether management actions for restoration were conducted as planned. Effectiveness monitoring is used to determine whether the management activities are having the desired effect on physical processes and/or habitat conditions. Validation monitoring assesses the correctness of basic assumptions about how management actions will affect biological outcomes (e.g., the biological response to changes in habitat conditions resulting from the management actions). Validation monitoring is generally the most difficult to carry out, in terms of cost, complexity, and the variability of factors that are to be measured, especially due to the influence of outside, independent variables on the biological response associated with a given project. Project assessments will follow this approach to both document baseline conditions and test restoration project hypotheses in order to adaptively manage projects. Our Monitoring Framework begins at the baseline conditions assessment and associated project design phase, and follows through an adaptive approach to project implementation, data analysis, and information exchange. Figure 1 (below) illustrates our approach, and Table 1 (below) contains examples of principal questions and different types of monitoring for a habitat restoration project.

Table 1. Habitat Restoration Monitoring Types and Example Questions (Sources: Adapted from Roni et al. 2005 and Lewis et al. 2009)

Type of Monitoring	Principal Monitoring Question
BASELINE ASSESSMENT: Document baseline site conditions (e.g., physical and/or biological conditions). Develop a problem statement/restoration hypothesis, project goals and objectives, and associated monitoring questions. Pre-project conditions should directly influence project implementation and design.	1. What are the existing site conditions (baseline) and the reasons for implementing a project at the site?
IMPLEMENTATION: Confirm project was implemented according to approved designs, plans, and permits. Identify and address any potential threats to project success.	2. Was the project installed as described in the work plan and associated design documents?
EFFECTIVENESS: Assess post-project site conditions and to document changes resulting from project (e.g., determine if actions are having predicted effects on physical conditions and processes). Needs to occur over sufficient time period to allow conditions to change as a result of treatment(s). Identify and address threats to project success.	3. Did physical processes and/or habitat conditions of project site change as expected over the anticipated timeframe?
VALIDATION: Assess biological responses from project implementation. For example, change in use, presence, abundance of desired spawning or rearing salmon or migratory songbirds at site. Needs to occur over sufficient time period for wildlife to change as result of project treatment.	4. Did fish and wildlife respond to the changes in physical or biological conditions and/or processes as a result of the project?

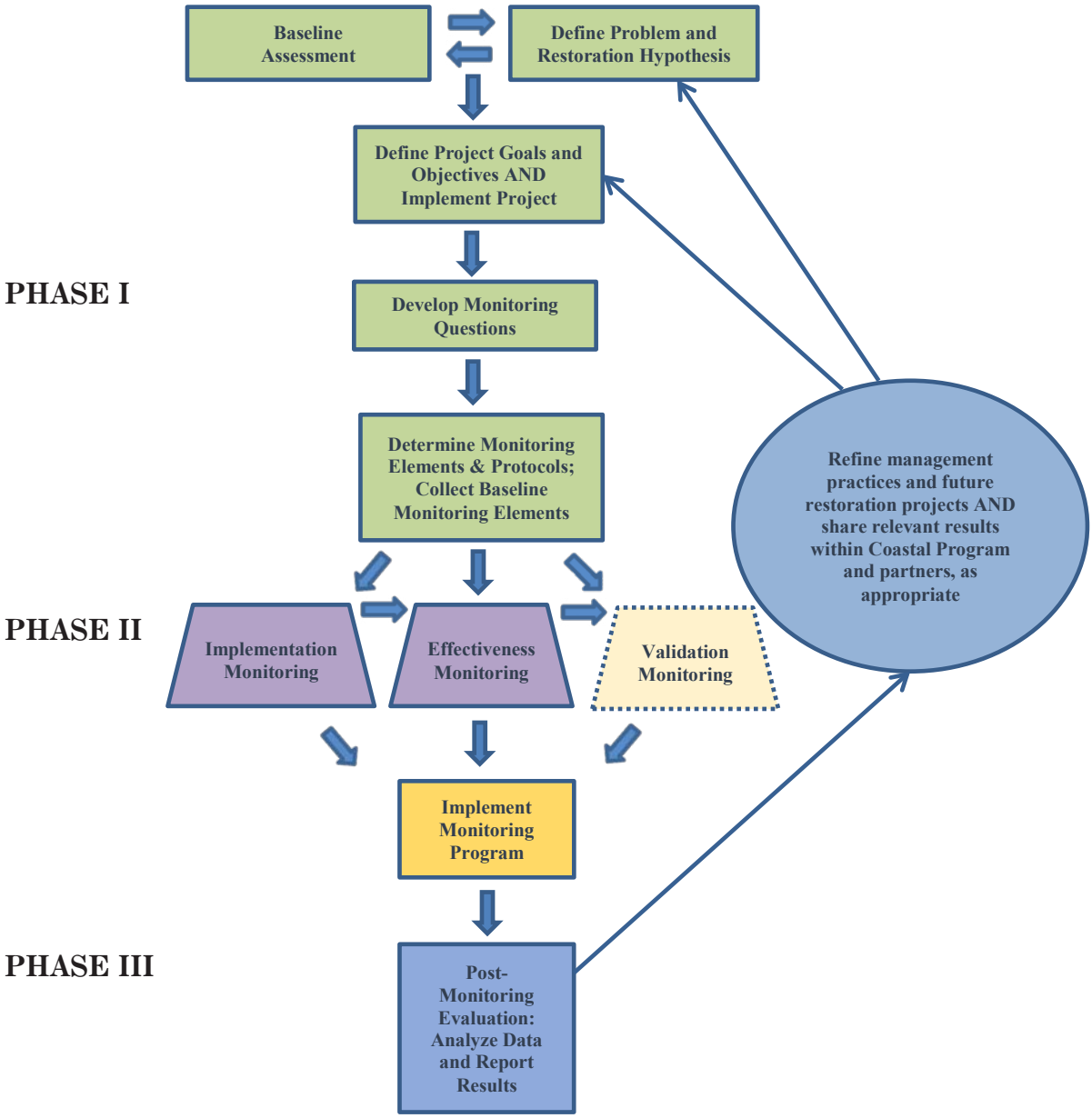

Figure 1. Monitoring Framework Process

Framework Phases
The following steps outline the three primary phases to our Monitoring Framework:

Phase I
Baseline Assessment: Baseline pre-project site conditions will be documented as part of pre-project assessment. Some additional site specific documentation may also be required (e.g., photos). All projects will include a pre-project assessment.
Problem Statement/Restoration Hypothesis: From the baseline assessment described above, the problem statement and restoration hypothesis will be developed (e.g., Why is the project being undertaken? What are the expected results?). Project work plans, project planning and design documents will explicitly state the problem being addressed. Additionally, design documents should explain the restoration hypothesis (i.e., the geomorphic, habitat, and if possible, the biological response

expected for the project as a whole or for each major design feature). All project work plans will have a problem statement and a restoration hypothesis.

Project Goals and Objectives: Project goals and objectives should address the problem statement and test the restoration hypothesis. The project goals and objectives describe how the project will solve the defined problem. It is imperative to have clear goals and measurable objectives, and subsequent evaluation of those goals and objectives for a project, in order to evaluate its success (Dahm et al. 1995). All project work plans will have clear goals and objectives.

Monitoring Questions: Monitoring questions are derived from the project goals, objectives, and the restoration hypothesis, and they are defined during the project design stage, prior to project implementation. For examples, please refer to Table 2. The Region 8 Coastal Program will develop monitoring questions for all project work plans.

Phase II

Implementation Monitoring: Implementation monitoring will be conducted to document the as-built site conditions to verify that projects are constructed as planned. This type of monitoring assesses whether the project was constructed or completed as intended, and documents any deviations from the project plan. The Region 8 Coastal Program will conduct implementation monitoring for all projects that have an on-the-ground component. Beyond implementation monitoring, the level of monitoring conducted for a project is contingent upon available funding, time, and the necessity of the information that may be obtained through a more intensive monitoring effort (i.e., effectiveness and validation monitoring).

Effectiveness Monitoring: Effectiveness monitoring periodically assesses whether actions have the predicted effects on physical processes and/or habitat conditions. Each Local Program Manager will conduct effectiveness monitoring on 1-2 projects for the remaining duration of the current Coastal Program Strategic Plan (FY2012-2016).

Quantitative Effectiveness Monitoring: Quantitative Effectiveness monitoring assesses whether project actions have the hypothesized effects on physical processes and/or habitat conditions. This type of monitoring is more difficult to complete than implementation monitoring. It is data-driven with a rigorous sampling design, and it requires significant effort to select appropriate sites, conditions to measure, monitoring frequency, and monitoring methods. However, quantitative effectiveness monitoring is very important to (1) determine whether restoration actions, when implemented as designed, meet project goals and objectives, and (2) support and allow for adaptive management, and learning at the project or program scale. Table 2 contains some examples of quantitative effectiveness monitoring for different types of restoration projects. Table 3 contains examples of restoration actions, conditions to be monitored, and potential monitoring methods that may be used.

Restoration Action	Monitoring Question	Conditions/Parameters Measured
Fish Passage Barrier Removal	Is fish passage structure (culvert) operating as anticipated?	Measure flow velocity and depths through structure during range of flow conditions under which structure is designed to pass fish
Fish Passage Barrier Removal	Are fish passing through constructed feature?	Conduct fish surveys (such as salmon spawning surveys) upstream of structure
Riparian or upland revegetation	Is planted vegetation survival as expected?	Conduct direct counts or plots. Compare with design guidelines
Riparian or upland revegetation	Is planted vegetation achieving cover as expected?	Monitor tree, shrub, and/or herbaceous cover via intercept transects

Table 2. Examples of Quantitative Monitoring Questions and Measurement Examples

Condition to be monitored	Quantitative method	References	Time*	Skill ^
Survival and establishment	Direct count	Lewis et al. 2009	Variable	Variable
	Plot method	Lewis et al. 2009		
Tree or shrub cover	Line intercept transects	Harris et al. 2005~ Coulloudon et al. 1999	L	L
Tree or shrub composition	Line intercept transects	Harris et al. 2005~ Coulloudon et al. 1999	L	M
	Floodplain forest composition plots	Harris et al. 2005~	M	H
Herbaceous cover; herbaceous composition	Gap intercept	Herrick et al. 2005 vol. 1	L	L
	Line-point intercept	Herrick et al. 2005 vol. 1	M	M-H
	Step-point method	Coulloudon et al. 1999	M	M-H
Canopy cover; solar radiation	Spherical densitometer	Flosi et al. 1998	L	L
	Solar pathfinder	Harris et al. 2005~	M	M
Stream channel morphology	Bankfull width-to-depth ratio	Rosgen 1996	L	M
	Cross section	Harrelson et al. 1994	M	M
	Longitudinal profile	Gerstein 2005; Harrelson et al. 1994	M	M
Bank stability	Line intercept transects	Gerstein and Harris 2005~	L	L
	Cross section	Harrelson et al. 1994	H	M
Woody debris	Wood debris survey	Gerstein 2005; Flosi et al. 1998	L	M
Maximum or mean pool depth	Residual pool depth	Lisle 1987	L	M
	Longitudinal profile	Gerstein 2005; Harrelson et al. 1994	M	H
Water quantity	Stream flow	SWRCB 2001; Tate 1995a, b	M	H
	Groundwater elevation	Nielsen 1991; Freeze and Cherry 1979	H	H

Table 3. Recommended Quantitative Effectiveness Monitoring Methods Based on Conditions (Source: Lewis et al. 2009)

Notes:
*Time required: L=in general, a few hours per site per year; M=a full day to multiple days per site per year; H=more than a week per site per year
^Skill level required: L=little to no experience needed; M=some experience applying terminology to field measurements; H=considerable experience and or high level training in discipline and methods
~To use Gerstein and Harris and Harris et al. protocols, consult Nossaman et al. (2007) for recommendations following additional field testing

Qualitative Effectiveness Monitoring: This type monitoring is based on a qualitative assessment of achievement of objectives that are often visually obvious. Photograph point monitoring is often used. For example, one could use onsite photography (Table 4) or remote sensory images to determine percent cover increase over a designated period of time. Qualitative effectiveness monitoring is best if used in conjunction with quantitative effectiveness monitoring. Due to limited time and resources, it will not always be possible to conduct an intensive quantitative effectiveness monitoring approach. Qualitative photographic monitoring is an inexpensive method to monitor visual changes in project sites through time. However, it is difficult to complete the adaptive management process via pre-project assessment, implementation monitoring, and qualitative effectiveness monitoring alone.

Restoration Action	Pre-Project Photographs	Post-project Photographs
Riparian Livestock Fencing	Photos should capture representative streambank profiles prior to fencing.	Photos should show fencing, changes in vegetation and streambank erosion.
Grazing Management	Landscape level photos prior to change in land-use or management actions. Remote sensory images may be used.	Landscape level photos from same location as pre-project site across multiple years.
Riparian planting (increased canopy cover; improved riparian corridor continuity and patch size)	Photos of riparian vegetation on left bank, right bank, channel upstream/downstream, and overhead, as appropriate. Remote sensory images may be used.	Should include identical areas captured by pre-treatment photos. Several years of repeat photography may be more illustrative than one post- project year.
Non-native plant management	Should capture area conditions prior to treatment, and document enough conditions to detect visual change in vegetation; landscape level photo. Remote sensory images may be used.	Should include identical areas captured by pre-treatment photos. Several years of repeat photography may be more illustrative than one post- project year.
Large wood/boulder placement	Photos from mid-channel looking upstream and downstream from each future structure location and photo taken from either right or left bank looking down upon the future structure.	Photos from mid-channel looking upstream and downstream from each structure location and photo taken from either right or left bank looking down upon structure.
Bank stabilization or weirs/grade control	Photos from opposite bank and from mid-channel, looking across stream to future treatment location. If structure involved, capture future structure location.	Photos from opposite bank and from mid-channel, looking across stream to treatment location. If structure involved, photos up/downstream, and upon structure.
Fish Barrier Removal and/or habitat opened from removal of barrier	Photos of barrier prior to removal; upstream, downstream photos. Photos of habitat that is currently inaccessible to target species.	Photos from same locations as pre-project sites to show that barrier is no longer present. Photos of newly opened habitat.
Restoration of Tidal Influence	Landscape level photo of area prior to restoration of tidal influence. Close-up photos of any structures or levees involved. Remote sensory images may be used.	Photos from same locations as pre-project during appropriate time/season to illustrate restoration of tidal influence.
Large-scale Estuary Restoration Project	Photos from multiple locations to capture future treatment areas. Landscape level photos should be taken to capture overview of area. Remote sensory images may be used.	Photos from same locations as pre-project to show change in treatment areas and overall landscape.

Table 4. Qualitative Photo Monitoring Examples by Project Type (Sources: Woodward and Hollar 2011, Shaff et al. 2007, and Gerstein and Kocher 2005)

Validation (biological response) Monitoring: Validation monitoring assesses the biological response as site conditions evolve, and should be incorporated with a rigorous quantitative effectiveness monitoring plan. Validation monitoring is labor- and time-intensive, and will only be undertaken when there is a clear necessity to evaluate project techniques or to monitor rare or declining species presence within the site. This type of monitoring will be infrequent for the Coastal Program due to time and budgetary constraints. When possible, the Coastal Program will partner with other groups to carry out validation monitoring, or we will lead the effort if there is a high-priority defined need and end usage for the data.

Landscape Scale Monitoring/Long-Term Ecological Monitoring: In addition to our Monitoring Framework, the Coastal Program may participate in or lead long term, species- or habitat-specific monitoring that is conducted at the landscape scale. This type of monitoring measures status and trends with respect to individual species or habitats within a landscape unit. Data from this type of monitoring should have a specific end use or be a contribution to a larger monitoring network for a given species, taxa, or vegetation community.

PHASE III

Using our Monitoring Framework

The Attachment contains template guidelines for each step of the Region 8 Coastal Program Project Monitoring Framework process for a given project. This document contains basic information that may be adapted to include more detailed information as the lead biologist deems necessary. Monitoring information for individual projects will be made available to others in the Region 8 Coastal Program by a shared electronic file site, and by highlighting noteworthy projects during our monthly conference calls. On a Regional level, we will examine the overall monitoring framework at our annual meeting to determine where changes should be made to improve our approach. We will also have a monitoring framework discussion about our respective projects each year at our annual meeting. By sharing our project monitoring successes and challenges, we can learn which project designs and monitoring techniques work for certain types of projects, which techniques do not, and where we can adapt and improve our techniques. We will identify future research needs or methods that need to be tested more robustly, and we will continually hone our preferred effectiveness methods and build a library of protocols on our shared electronic file site, so that we all have access to tested monitoring techniques that we can use and potentially compare across sites using defined repeatable methods.

Attachment

MONITORING GUIDELINES: SUPPLEMENT FOR WORK PLANS
PROJECT TITLE (PROGRAM AND YEAR)

BASELINE ASSESSMENT: *Baseline conditions.*

PROBLEM STATEMENT/RESTORATION HYPOTHESIS: *What is the problem that you are trying to solve and how do you think that this project will solve it or assist in solving it?*

PROJECT GOALS AND OBJECTIVES: *This should relate directly to your problem statement and hypothesis.*

MONITORING QUESTIONS:

MONITORING TYPES TO BE USED:

___Pre-project
___Implementation
___Effectiveness ___Qualitative ___Quantitative
___Validation

Comments:

MONITORING METHODS:
1. Method(s) and reference(s):
2. Timeframe for overall monitoring:
3. Estimated time required at each site:
4. Estimated equipment costs, if any:
5. Is there a control site?
6. Is there a reference site?

POST-MONITORING EVALUATION: *Share results with project partners and Coastal Program counterparts, as appropriate.*
1. Was type of monitoring employed sufficient to address success of project goals and objectives? If yes, see #2. If no, what is needed for the next time you conduct a similar project?
2. Were project goals and objectives met? If yes, how? If no, why not and can the project be modified to achieve goals and objectives? Explain.
3. Were monitoring questions answered? Explain.

RESULTS SHARED WITH THE FOLLOWING:

NOTES AND RECOMMENDATIONS FOR FUTURE PROJECTS:

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Appendix II: Coastal California Ecoregion Interim Priorities Table

Focus Area	Landscape Target	Target Objective	Species Targets and Trust Resources	Habitat Targets	Supporting Plans	Restoration Strategy	Priority Level
Humboldt Bay and Eel River Watersheds	Estuary	Conserve the mosaic of habitats types and associated processes that support estuarine ecosystems.	Migratory birds	Salt Marsh/Upland Transition Zone: Protect, restore, create processes and conditions that maintain habitats and refugia for a diversity of key marsh dependent species and provide buffer zones for landward migration of salt marsh due to climate change associated sea level rise.	Listing Docs, CCP's, Recovery Plans, Birds Consevation Plans (BCP)	Restore more normative hyrdrologic and sediment regimes	High
						Protection	
			Anadromous Fish; migratory birds; listed fish; interjurisdictional fish; marine fish	Mud Flat, Subtidal Aquatic; Shallow Subtidal Aquatic	BCP's; Recovery Plan; Subtidal Habitat Goals Plans	Construct appropriate ground elevations to create/restore mud flat hydrologic conditions; sediment augmentation	
						Protection	Moderate
						Supplemental planting	
						Create substrate for Oyster recruitment	
						Improve upstream water quality	High
			Interjurisictional fish, migratory birds, rare-sensitive salt marsh plants	Salt Marsh (aquatic species only)	Recovery Plan; BCP's, CCP;	Construct appropriate ground elevations to create/restore habitat conditions; supplemental planting	Moderate
						Remove invasive plants	High
			Tidewater goby; anadromous fish, western snowy plover; CA Red legged frog; migratory birds	Bar Built Estuary (Lagoon)	Recovery plans: BCP's	Restore hydrologic regime; restore sediment regime; incorporate large wood	
						Restore natural bar and mouth conditions /eliminate anthropogenic restrictions near mouth to encourage a more natural breaching regime	
						Various methods of controlled breaching to enhance habitat conditions	Moderate
			Tidewater goby; anadromous fish, marine fish species, migratory birds	Slough	Recovery plans; BCP's	Restore meanders and channel complexity	High
			Anadromous Fish, Migratory Birds, amphibians.	Freshwater Inputs: Stream, Riparian, and Freshwater Wetlands	Recovery Plans, BCPs, local plans.	Remove fish barriers	
						Remove non-native species and install natives	
						Reconnect channels to the estuary, improve channel sinuosity, reoccupy former more complex channels.	
			Marine Fish, Migratory Birds; Pacific Brant	Bay (open water only)	Recovery Plans, Local Natural Resource Management Plans; BCP's	Breach levees to expand tidal influence and to create more bay; Remove fill to restore Bay; Beneficial reuse of sediment to raise bathymetry for shallower water habitat, Remove contaminated sediment; Remove tidegates; Replace failed structures	Moderate
			Migratory Birds; Western Snowy Plover,	Dune	Recovery Plans; BCP's	Invasive plant removal;native plant intall;fencing;protection / Easements	High
			Dune Mat species; ESA listed species Menzie's wallflower; beach layia; pollinators	Dune	Recovery Plans, State Plans, CNPS Status	Invasive plant removal	
	Coastal Uplands		Western snowy plover; Native dune, shrub and forest plant communities; Migratory Birds	Dune	Recovery Plans BCPs		
						protection/ easments	
			Migratory birds, Oregon silverspot butterfly, behrens silverspot butterfly, western lily	Coastal Prairie	Recovery Plans BCPs	invasive plant removal;native plant intall;fencing	
						protection / Easements	
						Outreach	
		Conserve ponds/wetlands and their associated upland habitats to support specific ecological processes for sensitive coastal amphibian species and migratory birds.	migratory birds, northern red-legged frog, western pond turtle	Ponds/Wetlands	Recovery Plans; Status reviews; BCPs	Remove invasive species; Change water regime to decrease predatory amphibian success; Improve hydroperiod for native amphibians; restore wetlands; create wetlands; plant native riparian species	
						Protection	
	Urban/Suburban Wildlife Habitat	Create stop-over habitat for monarchs and other pollinators	Monarchs and Pollinators	Grasslands/ Riparian Areas: Nectar plants, milkweed	National Pollinator Strategy; Monach Joint Venture Implementation Plan	Create pollinator gardens	Moderate
	Monarch Breeding Habitat	Create monarch breeding habitat in historic known locations	Monarchs and Pollinators			Plant milkweed in known historic locations; plant nectar plants	

Focus Area	Landscape Target	Target Objective	Species Targets and Trust Resources	Habitat Targets	Supporting Plans	Restoration Strategy	Priority Level
San Francisco Bay Outer Coast	Estuary	Restore channel/floodplain connectivity, floodplain habitats and sediment transport and storage processes	Pacific lamprey, red-legged frog, garter snake, steelhead, coho	Floodplains/Freshwater Estuarine Wetlands	Recovery Plans; Watershed Plans; Pescadero, Butano, Lagunitas TMDLs	Reconnect floodplains via channel aggradation, floodplain lowering, dike removal/floodplain aggradation	High
				Stream Channel		Reverse stream channel incision via roughening/aggradation, reconect channels via floodplain-marsh aggradation	
		Restore floodplain sediment storage and reduce downstream delivery via floodplain connection		Floodplains/ Fluvial function		Floodplain lowering; Restoration of storage sediment capacity	
		Restore fluvial and tidal connections to Lagoon system	Pacific lamprey, red-legged frog, garter snake, steelhead, coho, California clapper rail	Lagoon		Restore tidal and fluvial function, and sediment storage to bar built estuarine lagoons	
		Reconnect disconnected aquatic habitats	Pacific lamprey, red-legged frog, garter snake, steelhead, coho	Freshwater Streams and Lagoons		Remove fish passage barriers	Moderate
	Coastal Uplands	Restore uplands to reduce sediment supply to downstream aquatic habitats; native vegetation restoration		Grassland/ Coastal Shrub/ Forest		Restore hillslope gullies; contain sediment from unrepairable gullies; restore soil health; remove invasive plants; plant native vegetation	

Focus Area	Landscape Target	Target Objective	Species Targets and Trust Resources	Habitat Targets	Supporting Plans	Restoration Strategy	Priority Level
Central Coast Dunes and Estuaries	Estuary	Conserve the mosaic of habitats types and associated processes that support relevant estarine ecosystems.	Anadromous Fish; migratory birds; listed fish; interjurisdictional fish	Shallow Subtidal Aquatic	Recovery Plans; BCPs; Subtidal Habitat Goals Plans	Improve upstream water quality	Moderate
			Interjurisictional fish, migratory birds, Ridgeway's rail, salt marsh bird's beak	Salt Marsh	Recovery Plan; BCP's, CCP	Construct appropriate ground elevations to create/restore habitat conditions	
			Tidewater goby; anadromous fish, western snowy plover; least tern, CA Red legged frog; migratory bird	Bar Built Estuary (Lagoon)	Recovery plans	Remove invasive plants	High
						Restore hydrologic regime and restore sediment regime	
						Restore natural bar and mouth conditions/eliminate anthropogenic restrictions near mouth to encourage a more natural breaching regime	
						Various methods of controlled breaching to enhance habitat conditions	Moderate
			Anadromous Fish, listed fish, list plants,Least Bell's Vireo, Ridgway's Rail, Migratory Birds, amphibians.	Freshwater Inputs: Stream, Riparian, and Freshwater Wetlands	Recovery Plans, BCPs, local plans.	Reconnect channels to the estuary, Removal of barriers, Install buffers for water quality; Treat storm water runoff from ag and development; Remove non-native species and install natives, improve channel sinuosity	High
			Migratory Birds; Ridgway rail, Western Snowy Plover, California least tern, Ventura March Milk Vetch, El Segundo Blue, Smith's blue, pollinators	Dune	Recovery Plans BCPs Santa Clara River SHC Modeling Effort	Invasive plant removal native plant install; fencing protection / Easement; move trasportion infrastructure; Outreach	
	Coastal Uplands	Conserve the mosaic of habitats types and associated processes that support relevant coastal dune ecosystems.	Western snowy plover, California least tern, Smith's blue, listed plants (Monterey Bay, Morro Bay, Guad-Nipomo species), Migratory Birds	Dune (Cemex 100, California State Parks-Marina 65, Carmel - 3, Montery Colony 5, Morro Bay 1, Vandenberg 1, Guad-Nipomo 1)	Recovery Plans BCPs	Invasive plant removal, native Plant intall, fencing, protection, move trasportion infrastuctiure, managed retreat (i.e., relocating development inland)	
						Research into coastal-specific invasive species control (Veldt grass)	
			Listed plants (MB manzanita, Gaviota tarplant, Vandenberg MF) , listed/sensitive butterflies (MB blue, ES blue, Monarch) and pollinators, migratory birds	Native dune shrub and woodland/forest plant communities	Recovery Plans BCPs	Invasive plant removal, increasing host plant availability, land protection	Moderate
						Research into coastal-specific invasive species control (Veldt grass)	
		Conserve the mosaic of habitats types and associated processes that support relevant coastal prairie and adjacent woodland/forest ecosystems.	Migratory birds, listed plants, ohlone tiger beetle, pollinators, listed amphibians	Coastal Prairie	Recovery Plans BCPs	Invasive plant removal, native plant intall, fencing, Outreach	High
						Protection / Easements	
	Coastal Freshwater	Conserve the process that support and functions of habitats types associated with stream systems	Tidewater goby, anadromous fish, pacific lamprey, CRLF, arroyo toad, foothills yellow-legged frog, western pond turtle	Streams and Floodplains	ESA, recovery plans, watershed plans	Fish Passage Barrier removal	Moderate
		Conserve ponds and their associated upland habitats to support specific ecological processes for sensitive coastal amphibian species.	CRLF, CTS, Santa Cruz long-toed salamander, migratory birds, western pond turtle, listed plants	Isolated Springs and Ponds	Recovery Plans; 5Yr reviews; BCPs	Remove invasive species; Change water regime to decrease predatory amphibian success; Improve hydroperiod for native amphibians; restore wetlands; create wetlands; managed grazing; protect habitat	High
	Urban/Suburban Wildlife Habitat	Create stop-over habitat for monarchs and other pollinators	Monarchs and Pollinators	Grasslands/ Riparian Areas: Nectar plants, milkweed	National Pollinator Strategy, Monach Joint Venture Implementation Plan	Create pollinator gardens	
	Monarch Breeding Habitat	Create monarch breeding habitat in historic known locations	Monarchs and Pollinators	Grasslands/ Riparian Areas: Nectar plants, milkweed		Plant milkweed in known historic locations; plant nectar plants	
	Monarch Overwintering Sites	Protect overwintering groves	Monarchs	Overwintering groves		Work with partners to acquire overwintering groves via fee-title or conservation easement	
		Develop managment plans for beneficial stewardship of overwintering sites	Monarchs	Overwintering groves		Conduct site assessments and develop management plans for priority overwintering sites	
		Restore overwintering sites	Monarchs	Overwintering groves		Plant nectar plants and trees in and around overwintering groves; conduct other restoration actions identified in management plans	

Focus Area	Landscape Target	Target Objective	Species Targets and Trust Resources	Habitat Targets	Supporting Plans	Restoration Strategy	Priority Level
South Central Coast Watersheds	Estuary	Conserve the mosaic of habitats types and associated processes that support relevant estarine ecosystems.	Migratory birds; Ridgeway's rail; Belding's Savanah Sparrow; Saltmarsh bird's beak;	Salt Marsh/Upland Transition Zone:	Listing Docs, CCP's, Recovery Plans	Construct appropriate ground elevations to create/restore transition zones.	High
						Protection	
			Migratory birds; California Least Tern; Western Snowy Plover	Salt Pan	Recovery Plans; BCPs	Construct appropriate ground elevations to create/restore salt pan hydrologic conditions.	Moderate
						Protection	
			Migratory birds; clapper rail; marine fish	Mud Flat	Bird Conservation Plans; Recovery Plan	Construct appropriate ground elevations to create/restore/address conflicts in mud flat hydrologic conditions when negative impacts occurring to other native resources; sediment augmentation.	High
						Protection	Moderate
			Interjurisictional fish, migratory birds, Ridgeway's rail, salt marsh havest mouse, salt marsh bird's beak	Salt Marsh	Recovery Plan; Bird Conservation Plan;	Construct appropriate ground elevations to create/restore habitat conditions; supplemental planting	
						Removal of non-native invasive plants	High
			Tidewater goby; anadromous fish, western snowy plover; least tern, CA Red legged frog; migratory bird	Bar Built Estuary (Lagoon)	Recovery plans	Restore hydrologic regime (reduce/eliminate withdrawals) and restore sediment regime (reduce upstream sediment supply and/or restore floodplain sediment storage)	
						Restore natural bar and mouth conditions/eliminate anthropogenic restrictions near mouth to encourage a more natural breaching regime (transportation)	
						Various methods of controlled breaching to enhance habitat conditions	Moderate
			Tidewater goby; anadromous fish, marine fish species, migratory birds	Slough	Recovery plans	Restore meanders and channel complexity; reoccupy old channel scars; restore full or muted tidal regime;restore native vegetation along slough banks; place instream wood	High
			Anadromous Fish, Least Bell's Vireo, Ridgway's Rail, Migratory Birds, amphibians.	Freshwater Inputs: Stream, Riparian, and Freshwater Wetlands	Recovery Plans, BCPs, local plans.	Soften channels that have been hardened; Reconnect channels to the estuary, Removal of barriers, Install buffers for water quality; Treat storm water runoff from ag and development; Remove non-native species and install natives, improve channel sinuosity, reoccupy former more complex channels.	
	Coastal Uplands	Conserve the mosaic of habitats types and associated processes that support relevant coastal dune ecosystems.	Migratory Birds; Ridgway rail, Western Snowy Plover, California least tern, Ventura March Milk Vetch, salt marsh bird's beak, El Segundo blue butterfly, pollinators	Dune	Recovery Plans BCPs Santa Clara River SHC Modeling Effort	Invasive plant removal native plant intall fencing protection / Easement move transportion infrastuctiure; Outreach	
		Conserve and improve coastal sage scrub habitat to improve northern expansion of CAGN Range with Climate Change in mind.	CAGN, Migratory birds, Native flora and Fauna	Coastal Sage Scrub	Recovery Plans HCPs	Invasive plant removal; plant native species	
		Conserve the mosaic of habitats types and associated processes that support relevant coastal prarie ecosystems.	Migratory birds, gaviota tarplant, listed/sensitive butterflies (ES blue, monarch), pollinators	Coastal Prairie	Recovery Plans BCPs	invasive plant removal native plant intall fencing protection / Easements Outreach	
	Coastal Freshwater	Conserve the process that support and functions of habitats types associated with stream systems	Tidewater goby, anadromous fish, pacific lamprey, CRLF, arroyo toad, foothills yellow-legged frog, western pond turtle, unarmored 3 spined stickleback, Santa Ana sucker	Streams and Floodplains	ESA, recovery plans, watershed plans	Fish Passage Barrier removal	
						Channel Roughnening/ floodplain lowering /floodplain reconnection/offchannel habitat restoration/ beaver (analogs)	Moderate
		Conserve ponds and their associated upland habitats to support specific ecological processes for sensitive coastal amphibian species.	CRLF,migratory birds, western pond turtle	Ponds	Recovery Plans 5-Yr reviews BCPs	Remove invasive species; Change water regime to decrease predatory amphibian success; Improve hydroperiod for native amphibians; restore wetlands; protect habitat	High
		Conserve vernal pools and their associated watersheds to support processes between the wetlands and uplands.	Listed/sensitive plants, listed fairy shrimp, monarch, pollinators	Vernal Pools	Recovery Plans	Restore vernal pool and their watershed topography through grading; Remove non-invasive plants; fencing	Moderate
	Urban/Suburban Wildlife Habitat	Create stop-over habitat for monarchs and other pollinators	Monarchs and Pollinators	Grasslands/ Riparian Areas: Nectar plants, milkweed	State of the Monarch Butterfly Overwintering Sites in CA, National Pollinator Strategy, Monach Joint Venture Implementation Plan	Create pollinator gardens	High
	Monarch Breeding Habitat	Restore monarch breeding habitat	Monarchs and Pollinators			Plant milkweed in known historic locations; plant nectar plants	
	Monarch Overwintering Sites	Protect overwintering groves	Monarchs	Overwintering groves		Protection	
		Develop managment plans				Stewardship	
		Restore overwintering sites				Plant nectar plants and trees in and around overwintering groves	

Focus Area	Landscape Target	Target Objective	Species Targets and Trust Resources	Habitat Targets	Supporting Plans	Restoration Strategy	Priority Level
Southern California Estuaries	Estuary	Conserve the mosaic of habitats types and associated processes that support relevant estarine ecosystems.	Migratory birds; Ridgeway's rail; Belding's Savanah Sparrow; Saltmarsh bird's beak; salt marsh wandering skipper	Salt Marsh/Upland Transition Zone:	Listing Docs, CCP's, Recovery Plans	Construct appropriate ground elevations to create/restore transition zones; Remove invasive plants; Plant native plants	High
			Fisheries; migratory birds; listed fish; interjurisdictional fish;	shallow subtidal aquatic	Recovery Plan; Bird Conservation Plan; Subtidal Habitat Goals Plans	Create substrate for Oyster recruitment; Monitor for effectiveness as living shoreline	
			Interjurisictional fish, migratory birds, Ridgeway's rail, salt marsh bird's beak, Belding's savannah sparrow; salt marsh wandering skipper	Salt Marsh	Recovery Plan; Bird Conservation Plan	Construct appropriate ground elevations to create/restore habitat conditions; supplemental planting; remove non-native invasive plants	
	Streams and Riparian	Conserve the mosaic of habitats types and associated processes that support relevant estarine ecosystems.	Anadromous Fish, Least Bell's Vireo, Ridgway's Rail, Migratory Birds, southerwestern willow flycatcher	Riparian	Recovery Plans, BCPs, local plans.	Reconnect channels to the estuary, Removal of barriers, Install buffers for water quality; Treat storm water runoff from ag and development; Remove non-native species and install natives, improve channel sinuosity, reoccupy former more complex channels	
			Anadromous Fish	Streams		Removal of non-native invasive animals; Removal of sediment; Remove barriers to fish passage; Remove non-native invasive plants	Moderate
	Coastal Uplands	Conserve the mosaic of habitats types and associated processes that support relevant coastal dune ecosystems.	Western snowy plover, California least tern, listed plants, listed/sensitive butterflies (ES blue, monarch) pollinators Migratory Birds, dune plant species	Dune		invasive plant removal native Plant intallation install fencing protection move transportion infrastuctiure, managed retreat	
		Conserve and improve coastal sage scrub habitat	CAGN, Migratory birds, Native flora and Fauna	Coastal Sage Scrub		invasive plant removal, plant native species	High

Appendix III: Coastal Program Interim Priorities Survey Questions

What are the most important Service resource priorities at your field station that habitat restoration and protection can affect? List resources, species, habitat types, whatever you think best. Why? What plans support these? For example, list the resource issues that the Partners/Coastal Program should focus 80% of their resources on (in your opinion).

a. Identify the key landscape-scale drivers for your list (include both biological and human-driven).
b. What "directives" or influences are driving your list?
c. What types of activities (Partners and Coastal) are/will be most effective at addressing these priorities? That is, which of the available tools (project types) will be best to improve conditions for the items on your list.
d. Which types of partnerships and with whom would be most important for accomplishing your identified restoration priorities?
e. Are there other lower resource priorities that Partners and Coastal Programs should and could address (with less than 20% of their resources)?
f. Do the Partners and Coastal Program staff have the correct skillsets in these areas to meet these needs? What do we need to add?
g. What about outreach priorities and partnership building priorities?

2. Which resource priorities have the Partners and Coastal Programs addressed effectively in the past?
   a. Are these still resource concerns in existing or other areas within your office's geography? Tie this to your answers for No: 1.
   b. Looking back: are there opportunities we missed? What can these programs do better in the future based on what you've seen?

3. What are the key ecological threats that habitat protection and restoration projects can be an effective tool at addressing?

4. What are the key program limiting factors to effectively address your priority restoration needs?

5. How can Partners/Coastal best communicate with your office/program about mutual opportunities and/or outreach? What improvements can we make?

6. How should we fit other Service priorities into these programs? For example, National MOU's, National initiatives, programs.

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Coastal Program
Pacific Southwest Region

FY 2017-2021